COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

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PETTION OF

VIRGINIA ELECTRIC AND POWER COMPANY **CASE NO. PUR-2019-00201**

For approval of its 2019 DSM Update
pursuant to § 56-585.1 A 5 of the Code of Virginia

REPORT OF ALEXANDER F. SKIRPAN, JR., CHIEF HEARING EXAMINER

June 16, 2020

Dominion Energy seeks approval of 11 Phase VIII DSM Programs, an extension of its existing AC Cycling Program, and the re-launch of three approved Phase VII DSM Programs. The Company also seeks annual updates for three RACs, designated as Riders C1A, C2A, and C3A. Participants in this proceeding include Staff, Consumer Counsel, Walmart, Environmental Respondents, VAEEC, and VPLC. Based on the record, I find the Company's proposed programs should be approved by the Commission, with some modifications as proposed by Staff. I also recommend approval of an overall total revenue requirement for the three RACs of $59,685,418.

HISTORY OF THE CASE

On December 3, 2019, Virginia Electric and Power Company d/b/a Dominion Energy Virginia ("Dominion Energy" or "Company") pursuant to § 56-585.1 A 5 ("Subsection A 5") of the Code of Virginia ("Code"), the Rules Governing Utility Rate Applications and Annual Informational Filings[1] ("Rate Case Rules") of the State Corporation Commission ("Commission"), the Commission's Rules Governing Utility Promotional Allowances[2] ("Promotional Allowance Rules"), the Commission's Rules Governing Cost/Benefit Measures Required for Demand-Side Management ("DSM") Programs[3] ("Cost/Benefit Rules"), the Commission's Rules Governing the Evaluation, Measurement and Verification of the Effects of Utility-Sponsored DSM Programs[4] ("EM&V Rules"), and the directive contained in Ordering Paragraph (4) of the Commission's *May 2, 2019 Order*,[5] as amended by the Commission's *September 17, 2019 Order*,[6] filed with the Commission in its 2019 DSM update ("2019 DSM

[1] 20 VAC 5-201-10 *et seq.*
[2] 20 VAC 5-303-10 *et seq.*
[3] 20 VAC 5-304-10 *et seq.*
[4] 20 VAC 5-318-10 *et seq.*
[5] *Petition of Virginia Electric and Power Company, For approval to implement demand-side management programs and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia*, Case No. PUR-2018-00168, Doc. Con. Cen. No. 190510056, Order Approving Programs and Rate Adjustment Clauses (May 2, 2019) ("*May 2, 2019 Order*").
[6] *Petition of Virginia Electric and Power Company, For approval to implement demand-side management programs and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia*, Case No. PUR-2018-00168, Doc. Con. Cen.

Update") requesting: (1) approval to implement 11 new DSM programs ("Phase VIII DSM Programs"); (2) approval to extend the Company's existing Air Conditioner ("AC") Cycling Program; (3) expedited approval to launch three of the Phase VII DSM Programs approved in the *May 2, 2019 Order* with updated parameters and cost/benefit results; (4) approval of revised measures in two existing Phase VII DSM Programs approved in the *May 2, 2019 Order*; and (5) approval of three updated rate adjustment clauses, Riders C1A, C2A, and C3A ("Petition").

Concurrent with its Petition, Dominion Energy filed a Motion for Entry of a Protective Ruling and Additional Protective Treatment. The Company's motion was granted in the Hearing Examiner's Protective Ruling and Additional Protective Treatment for Extraordinarily Sensitive DSM Contracts and Prices Information filed on December 23, 2019.

On December 19, 2019, the Commission entered its Order for Notice and Hearing in which, among other things, the Commission docketed the Petition; scheduled a public hearing for April 29, 2020; denied the Company's request for expedited approval of the Phase VII DSM Programs; and appointed a Hearing Examiner to conduct all further proceedings in this matter on behalf of the Commission.

On January 13, 2020, Appalachian Voices and Natural Resources Defense Council ("Environmental Respondents") filed their notice of participation. On January 28, 2020, the Virginia Energy Efficiency Council ("VAEEC") filed its notice of participation. On February 3, 2020, Walmart Inc. ("Walmart") filed its notice of participation. On February 12, 2020, the Office of the Attorney General's Division of Consumer Counsel ("Consumer Counsel") filed its notice of participation. On February 14, 2020, the Virginia Poverty Law Center ("VPLC") filed its notice of participation.

On January 23, 2020, Dominion Energy filed its Proof of Notice as directed by Paragraphs (5) through (7) of the Commission's Order for Notice and Hearing.[7]

On January 31, 2020, VAEEC filed its Motion for Admission of Abbey Thornhill and Thalia Spinrad under Virginia's Third Year Student Practice Rule. VAEEC's motion was granted in a Hearing Examiner's Ruling dated February 3, 2020.

On March 9, 2020, Dominion Energy filed corrected versions of certain schedules.

On March 20, 2020, VAEEC filed the direct testimony of Mark James; Walmart filed the direct testimony of Lisa V. Perry; and Environmental Respondents filed the direct testimony of Jim Grevatt.

On March 27, 2020, Staff filed direct testimony of David J. Dalton, Andrew T. Boehnlein, Justin M. Morgan, and Chang M. Lee.

No. 190930301, Order Granting Motion to Extend (Sept. 17, 2019) ("*September 17, 2019 Order*").

[7] Exhibit No. 1.

On April 10, 2020, a Hearing Examiner's Ruling scheduled a prehearing conference via Skype for Business ("Skype") for April 17, 2020, to prepare for the hearing scheduled to begin on April 29, 2020, to be conducted remotely via Skype due to the ongoing public health emergency related to the spread of the coronavirus, or COVID-19. On April 17, 2020, the prehearing conference was held as scheduled.

On April 10, 2020, the Company filed the rebuttal testimony of Nathan J. Frost, Michael T. Hubbard, Deanna R. Kesler, Dr. Miriam Goldberg, and Dan Feng.

On April 21, 2020, a Hearing Examiner's Ruling, based on the discussions during the prehearing conference, established additional procedures for the hearing scheduled to begin on April 29, 2020, including: (i) the prefiling of all documents that Staff or a party may move to admit during the hearing or use during cross-examination; (ii) scheduling public witness testimony to be provide by telephonically calling into a Skype hearing to be held on April 30, 2020; and (iii) extending the deadline for the filing of public comments to May 7, 2020.

Hearings in this matter were held on April 29 and 30, 2020, as scheduled. Vishwa B. Link, Esquire, Lisa R. Crabtree, Esquire, and April M. Jones, Esquire, of McGuireWoods, LLP, and Audrey T. Bauhan, Esquire, of Dominion Energy Services, Inc., appeared on behalf of Dominion Energy. Cale Jaffe, Associate Professor of Law and General Faculty Director of the Environmental and Regulatory Law Clinic, University of Virginia School of Law, Abbey Thornhill, third-year law student, and Thalia Spinrad, third-year law student, appeared on behalf of VAEEC. William T. Reisinger, Esquire of ReisingerGooch, PLC, appeared on behalf of VPLC. William C. Cleveland, Esquire, and Nathaniel Benforado, Esquire, of the Southern Environmental Law Center, appeared on behalf of Environmental Respondents. Carrie H. Grundmann, Esquire, and Derrick P. Williamson, Esquire, of Spilman Thomas & Battle PLLC, appeared on behalf of Walmart. C. Meade Browder, Jr., Senior Assistant Attorney General, C. Mitch Burton, Jr., Assistant Attorney General, and John E. Farmer, Jr., Assistant Attorney General, appeared on behalf of Consumer Counsel. Andrea B. Macgill, Esquire, and Kiva Bland Pierce, Esquire, appeared on behalf of Staff. One public witness provide testimony during the public witness session.

On May 22, 2020, Dominion Energy filed its post-hearing brief ("Company Brief"), Walmart filed its post-hearing brief ("Walmart Brief"), Consumer Counsel filed its post-hearing brief ("Consumer Counsel Brief"), VAEEC filed its post-hearing brief ("VAEEC Brief"), Environmental Respondents filed their post-hearing brief ("Environmental Respondents Brief"), VPLC filed its post-hearing brief ("VPLC Brief"), and Staff filed its post-hearing brief ("Staff Brief").

SUMMARY OF THE RECORD

Dominion Energy stated: "[s]ince 2009, the Company has annually filed updates to its DSM Portfolio, including requests to implement new DSM Programs, continue or expand existing DSM Programs, and/or update cost information."[8] The Company noted in the *May 2, 2019 Order* the Commission approved Dominion Energy's Phase VII petition to

[8] Exhibit No. 2, at 4.

implement 11 new DSM Programs for a period of five years and approved Riders C1A, C2A, and C3A effective for usage on and after July 1, 2019.[9] In its *September 17, 2019 Order*, the Commission granted the Company's motion to extend the annual filing date to on or before December 3, 2019, and to extend the rates for Riders C1A, C2A, and C3A "through the effective date of the subsequent rate."[10]

The Company listed the 11 Phase VIII DSM Programs it seeks in this proceeding, including 10 energy efficiency ("EE") programs and one demand response ("DR") DSM Program, as follows:[11]

- Residential Electric Vehicle (EE and DR)
- Residential Electric Vehicle (Peak Shaving)
- Residential Energy Efficiency Kits (EE)
- Residential Home Retrofit (EE)
- Residential Manufactured Housing (EE)
- Residential New Construction (EE)
- Residential/Non-residential Multifamily (EE)
- Non-residential Midstream Energy Efficiency Products (EE)
- Non-residential New Construction (EE)
- Small Business Improvement Enhanced (EE)
- HB 2789 (Heating and Cooling/Health and Safety) (EE)

Dominion Energy "seeks approval of the Phase VIII [DSM] Programs for a five-year period, from January 1, 2021 to December 31, 2025, subject to future extensions as requested and granted by the Commission."[12] Based on House Bill ("HB") 2789 during the 2019 General Assembly Session, the Company proposed HB 2789 (Heating and Cooling/Health and Safety) for a three-year term.[13] The Company advised the proposed cost cap for the Phase VIII DSM Programs in the aggregate is approximately $186,000,000 or approximately $235,000,000 including lost revenues.[14] As with previous DSM petitions, Dominion Energy requested the ability to exceed the spending cap by no more than 5 percent.[15] In addition, the Company sought authorization to spend directly for these programs for a reasonable amount of time before and after the requested five-year period to launch and wind-down activities.[16] Dominion Energy confirmed it analyzed each DSM Program individually, as well as the DSM Portfolio as a whole, using the four required cost/benefit tests.[17]

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[9] *Id.*; *May 2, 2019 Order*, at 2, 7-8, 11.
[10] Exhibit No. 2, at 4-5; *September 17, 2019 Order*.
[11] Exhibit No. 2, at 7.
[12] *Id.*
[13] *Id.* at 8.
[14] *Id.*
[15] *Id.*
[16] *Id.*
[17] *Id.* at 8-9.

The Company reported the discovery of issues related to three of the approved Phase VII Programs: (i) Residential Customer Engagement Program, (ii) the Residential Thermostat (EE) Program, and (iii) the Residential Thermostat (DR) Program.[18] The Company did not launch these programs, but requested expedited authorization for these three programs by March 31, 2020.[19] The Company also requested Commission approval to adjust measures in two existing Phase VII Programs, the Residential Efficient Marketplace Program and the Residential Home Energy Assessment Program to permit the offer of A-lined LED bulbs.[20] In addition, the Company requested a two-year extension of its existing AC Cycling Program, which is set to expire as of March 31, 2021.[21]

Dominion Energy advised the rate year in this proceeding is September 1, 2020, through August 31, 2021 ("Rate Year") for Riders C1A, C2A, and C3A.[22] The Company confirmed it "does not seek recovery of lost revenues at this time through this proceeding."[23] Consistent with § 56-585.1 a 5 c of the Code, the Company utilized a margin based on the general rate of return on common equity ("ROE") of 9.2 percent consistent with the Commission's *2019 ROE Order*.[24] Dominion Energy requested a Rider C1A total revenue requirement of $2,835,423, a Rider C2A total revenue requirement of $8,388,330, and a Rider C3A total revenue requirement of $48,461,666.[25] The Company's requested total revenue requirement for Riders C1A, C2A, and C3A is $59,685,418.[26] Dominion Energy stated implementation of the proposed Riders C1A, C2A, and C3A will increase a residential customer's monthly bill for 1,000 kilowatt hours ("kWh") usage per month by $0.34.[27]

Dominion Energy Direct Testimony

In support of its Petition, Dominion Energy filed the direct testimony of Nathan J. Frost, director of new technology and energy conservation ("EC") for the Company; Michael T. Hubbard, manager-energy conservation for the Company; Deanna R. Kesler, regulatory consultant in demand-side planning for the Company; Jarvis E. Bates, energy conservation compliance manager for the Company; Elizabeth Lecky, regulatory specialist in the Regulatory Accounting Department for the Company; Robert E. Miller, regulatory analyst III for the Company; Emilia L. Catron, regulatory analyst for the Company; and Dan Feng, senior consultant for DNV GL.

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[18] *Id.* at 9.
[19] *Id.*
[20] *Id.* at 9-10.
[21] *Id.* at 10.
[22] *Id.*
[23] *Id.* at 11-12.
[24] *Id.* at 12. *Application of Virginia Electric and Power Company, For the determination of the fair rate of return on common equity pursuant to § 56-585.1:1 C of the Code of Virginia*, Case No. PUR-2019-00050, Doc. Con. Cen. No. 191130006, Final Order (Nov. 21, 2019) ("*2019 ROE Order*").
[25] Exhibit No. 2, at 13.
[26] *Id.*
[27] *Id.* at 14.

Nathan J. Frost offered testimony to:

> (1) Explain the Company's approach towards DSM, particularly in light of the passage of the Grid Transformation and Security Act ("GTSA");
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> (2) Present an overview of the Company's request for approval of DSM Phase VIII;
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> (3) Present the Company's request for expedited approval of updated DSM Phase VII Programs;
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> (4) Present the Company's additional requests related to existing DSM Programs;
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> (5) Provide an overview of the Company's cost recovery request for the [Rate Year] through revised Riders C1A, C2A, C3A;
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> (6) Describe the Company's compliance with the [Commission] orders and directives in prior DSM proceedings; and
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> (7) Introduce the other witnesses presenting testimony and summarize the requests presented by the Company with this [Petition].[28]

Mr. Frost reported in 2018, approximately 84,000 customers participated in the Company's DSM Programs with approximately $16,800,000 disbursed in rebate payments.[29] Mr. Frost confirmed each year, energy savings associated with the Company's DSM Programs are subject to evaluation, measurement and verification ("EM&V") by the Company's third-party EM&V vendor, DNV GL.[30] Mr. Frost confirmed Dominion Energy files annual EM&V reports, which provide energy and demand reductions, as well as spending, participation, and other performance indicators, by program.[31]

Mr. Frost noted pursuant to the GTSA, the Company is required to spend an aggregate amount on DSM programs of at least $870,000,000 between July 1, 2018, and July 1, 2028.[32] Mr. Frost affirmed that with this Petition, Dominion Energy will spend approximately $344,000,000 on DSM programs since July 1, 2018.[33] Mr. Frost confirmed the proposed cost cap for the Phase VIII DSM Programs in the aggregate is approximately $186,000,000, or approximately $235,000,000 if lost revenues are included.[34]

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[28] Exhibit No. 4, at 2.
[29] *Id.* at 3-4.
[30] *Id.* at 4.
[31] *Id.*
[32] *Id.*
[33] *Id.* at 6-7.
[34] *Id.* at 8.

Mr. Frost testified regarding HB 2789 from the 2019 General Assembly Session, based on the independent moderator-led stakeholder group, the Company incorporated a Heating and Cooling/Health and Safety program in the Phase VIII DSM Programs.[35] Mr. Frost maintained the Heating and Cooling/Health and Safety program is a prerequisite to participation in the solar component of HB 2789.[36]

Mr. Frost advised the Company has the following two requests related to existing DSM Programs: (i) a short-term extension of its Phase I AC Cycling Program, which is set to expire on March 31, 2021; and (ii) permission to continue to offer A-line LED bulbs within the Phase VII Residential Efficient Marketplace and the Residential Home Energy Assessment Programs.[37]

Mr. Frost outlined the cost to be recovered through revised Riders C1A, C2A and C3A as:

> (i) Rate Year costs associated with its Phase II, IV, V, VI, VII, VIII Programs; (ii) 2018 calendar year True-up costs associated with the Company's Phase II, III, IV, V, and VI Programs; and (iii) 2018 calendar year True-up costs of the Company's approved EV Pilot Program.[38]

Mr. Frost confirmed the total revenue requirement requested in this proceeding is $59,700,000.[39] Mr. Frost also affirmed Dominion Energy complied with the Commission's directives in its *May 2, 2019 Order* to submit (i) an annual EM&V reports; (ii) an exhibit similar to Exhibit 5 in Case No. PUE-2013-00072; and (iii) evidence of the actual energy savings achieved by each program for which cost recovery is sought.[40]

In addition, Mr. Frost addressed the Commission's directive in its *2017 DSM Order*[41] to conduct biennial internal audits of the controls surrounding incentive and rebate payments with regard to each of the Company's DSM Programs.[42] Mr. Frost stated the Company conducted an audit in 2019 on 2018 rebate payments, which identified no rebate errors or spending issues.[43]

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[35] *Id.* at 9-10.
[36] *Id.* at 9.
[37] *Id.* at 11-12.
[38] *Id.* at 12.
[39] *Id.*
[40] *Id.* at 13.
[41] *Petition of Virginia Electric and Power Company, For approval to extend an existing demand-side management program and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia,* Case No. PUR-2017-00129, 2018 S.C.C. Ann. Rep. 282 ("*2017 DSM Order*").
[42] Exhibit No. 4, at 13.
[43] *Id.* at 13-14.

Michael T. Hubbard provided: (i) an update on the status of the Company's approved DSM Programs; (ii) an overview of the Phase VIII DSM Programs; (iii) a discussion of the quality assurance process and an update on the Company's controls related to the rebate approval process; and (iv) a discussion of certain provisions of the Commission's Promotional Allowance Rules.[44]

Mr. Hubbard listed the Company's active and existing DSM Programs, other than the Phase VIII DSM Programs, as follows:

- Residential AC Cycling,
- Residential Income and Age Qualifying Home Improvement,
- Non-residential Distributed Generation,
- Small Business Improvement, and
- Non-residential Prescriptive Programs.[45]

Mr. Hubbard expressed concerns regarding the Non-residential Prescriptive Program, which is not projected to pass three out of four cost/benefit tests on metrics reported in the 2018 EM&V report.[46] Mr. Hubbard maintained in 2018, there was significant and unexpected demand for door gasket and door auto closer measures.[47] Mr. Hubbard contended the program has evolved and "[i]t is important to recognize that the Program has only one reported year of results, and these results are not reflective of 2019 or the five year program design projected averages."[48]

Mr. Hubbard testified the Residential AC Cycling Program was approved by the Commission on March 24, 2010, and has been extended through March 31, 2021.[49] He reported there were 78,808 participating customers as of June 30, 2019.[50] Mr. Hubbard advised the program was activated 27 times in 2018 and 23 times during 2019.[51] He asserted the Residential AC Cycling Program, when called upon, provides the equivalent of more than 50 megawatts ("MW") of capacity.[52] Mr. Hubbard stated the Company requests a two-year extension, through March 31, 2023, "to continue to evaluate the long-term strategy and usefulness of this Program and, if ultimately determined that it should not continue, the additional time will allow the Company to methodically wind down and notify customers of the opportunity to participate in the Phase VII Residential Thermostat DR Program instead . . . ."[53] Mr. Hubbard noted the Residential AC Cycling Program does not appear to pass three out of four cost/benefit tests, and

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[44] Exhibit No. 5, at 2.
[45] *Id.* at 4.
[46] *Id.* at 4-5.
[47] *Id.* at 5.
[48] *Id.* at 6.
[49] *Id.*
[50] *Id.* at 7.
[51] *Id.*
[52] *Id.*
[53] *Id.* at 8.

the amount of kilowatt ("kW") savings per participant has decreased from 1 kW per participant to 0.627 kW per participant in 2018.[54] Nonetheless, Mr. Hubbard contended "if the Program were to add no new incremental participants after 2020 and the incentive was reduced to $35, the Program would pass three of the four cost/benefit tests."[55] Mr. Hubbard advised the Company is proposing to cap participation at levels that exist at the end of 2020, and reduce the incentive from $40 to $35, beginning with the 2021 cooling season.[56]

Mr. Hubbard testified after receiving Commission approval for the DSM Phase VII Residential Customer Engagement Program, the Company discovered that the administrative costs of the five-year program would be $7,064,000 instead of the $1,650,000 in the 2018 DSM[57] filing.[58] Mr. Hubbard maintained the program passes three of the four cost/benefit tests with the higher updated administrative costs, but the Company did not launch this program.[59] Instead, the Company sought expedited review and approval with this Petition.[60]

In addition, Mr. Hubbard stated Dominion Energy discovered assumptions related to the Residential Thermostat Program (EE and DR) overstated penetrations, which overstated the amount of savings and participation.[61] However, Mr. Hubbard reported that the Company re-modeled these programs and they pass three out of four cost/benefit tests.[62] Mr. Hubbard advised the Company also requested expedited review and approval of these programs.[63] Finally, he confirmed the Company has "added additional layers of quality assurance and met individually with each successful implementation bidder in Phase VIII and revised Phase VII to ensure the Company's understanding of the program designs are consistent within the Company's cost/benefit modeling and consistent with the vendor's intended modeling inputs."[64]

Mr. Hubbard pointed out a rollback of provisions in the federal Energy Independence and Security Act ("EISA") that permits the sale of A-line LED bulbs beyond 2019.[65] Mr. Hubbard stated the Company seeks authorization to continue to offer the A-line LED bulbs as measures within the Residential Efficient Marketplace and Residential Home Energy Assessment Programs beyond 2019.[66]

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[54] *Id.* at 9.
[55] *Id.*
[56] *Id.*
[57] *Petition of Virginia Electric and Power Company, For approval to implement demand-side management programs and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia*, Case No. PUR-2018-00168 ("2018 DSM").
[58] Exhibit No. 5, at 11.
[59] *Id.*
[60] *Id.*
[61] *Id.* at 12.
[62] *Id.*
[63] *Id.*
[64] *Id.* at 13.
[65] *Id.*
[66] *Id.* at 14.

Mr. Hubbard listed the 11 Phase VIII DSM Programs the Company seeks in this proceeding as follows:[67]

- Residential Electric Vehicle (EE and DR)
- Residential Electric Vehicle (Peak Shaving)
- Residential Energy Efficiency Kits (EE)
- Residential Home Retrofit (EE)
- Residential Manufactured Housing (EE)
- Residential New Construction (EE)
- Residential/Non-residential Multifamily (EE)
- Non-residential Midstream Energy Efficiency Products (EE)
- Non-residential New Construction (EE)
- Small Business Improvement Enhanced (EE)
- HB 2789 (Heating and Cooling/Health and Safety) (EE)

Mr. Hubbard noted the Company requests approval of the Phase VIII DSM Programs for the five-year period of January 1, 2021, through December 31, 2025.[68]

Mr. Hubbard described each of the Phase VIII DSM Programs as follows:

Residential Electric Vehicle Program (EE and DR) provides an incentive to residential customers to purchase a qualifying electric vehicle charger and be enrolled in a demand response program that gives customers the option to temporarily reduce load during times of peak system demand.[69]

Residential Electric Vehicle (Peak Shaving) provides an annual incentive to customers with a qualifying electric vehicle charger in exchange for permitting the Company to reduce the operating cycle of their charger during periods of high demand.[70]

Residential Energy Efficiency Kits (EE) provide new residential customers with a Welcome Kit, which includes a Tier 1 advanced power strip and information on managing their energy use and additional free measures available to customers, including information regarding the Company's other DSM Programs.[71]

Residential Home Retrofit (EE) provides customers with a comprehensive whole house diagnostic home energy assessment.[72]

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[67] *Id.* at 15.
[68] *Id.*
[69] *Id.* at 16-17.
[70] *Id.* at 17.
[71] *Id.*
[72] *Id.* at 18.

Residential Manufactured Housing (EE) provides for audits and reports outlining energy saving recommendations to residential customers in manufactured housing.[73]

Residential New Construction (EE) provides incentives to home builders to construct ENERGY STAR® Certified New Homes.[74]

Residential/Non-residential Multifamily (EE) provides a one-stop-shop program for multifamily property owners with solutions to include direct install-in-unit measures, incentives for prescriptive efficiency improvements, and access to project improvements for both in-unit and commercial common areas.[75]

Non-residential Midstream Energy Efficiency Products (EE) enrolls equipment distributors into a program that provides point-of-sales data to validate and quantify the eligible equipment in exchange for discounts on the rebate-eligible items sold to end customers.[76]

Non-residential New Construction (EE) provides facility owners with incentives to install energy efficient program measures in their new construction.[77]

Small Business Improvement Enhanced (EE) enhances the existing DSM Phase V Small Business Improvement Program by providing small businesses an energy use assessment and tune-up or re-commissioning of electric heating and cooling systems, along with incentives for other energy efficiency measures.[78]

HB 2789 (Heating and Cooling/Health and Safety) (EE) provides participants meeting income, age, and disability status, incentives for the installation of measures that reduce residential heating and cooling costs and enhance the health and safety of residents.[79]

Mr. Hubbard differentiated the Phase VIII Residential Home Retrofit Program from the Phase VII Residential Home Energy Assessment ("HEA") Program, which also provides an on-site assessment, stating the Residential Home Retrofit Program will conduct a more in-depth diagnostic audit for a market segment that has made a decision to invest in deep energy efficiency measures.[80]

Mr. Hubbard advised the proposed Phase VIII Small Business Improvement Enhanced Program is an updated and enhanced version of the existing Phase V Program.[81] Mr. Hubbard

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[73] *Id.*
[74] *Id.* at 19.
[75] *Id.*
[76] *Id.* at 20.
[77] *Id.*
[78] *Id.* at 21.
[79] *Id.*
[80] *Id.* at 21-22.
[81] *Id.* at 22.

affirmed the new Phase VIII adds key measures and services, including refrigeration measures, lighting dimmers and controls, and window film.[82]

Mr. Hubbard testified the Company's existing Income and Age Qualifying Home Improvement ("IAQHI") Program is set to expire at the conclusion of next year's DSM update, with new enrollments ending at the end of 2020.[83] He maintained approval of the HB 2789 (Heating and Cooling/Health and Safety) Program will ensure there are no gaps targeting individuals and families with limited means and will offer new and expanded measures.[84]

Mr. Hubbard affirmed the proposed Phase VIII DSM Programs concepts "were developed through the energy efficiency stakeholder process, as directed by Chapter 397 of the 2019 Virginia Acts of Assembly, as required by § 56-596.2 of the [Code]."[85] He stated the concepts were incorporated into a request for proposal ("RFP") in March 2019, with the RFP on the HB 2789 (Heating and Cooling/Health and Safety) Program in June 2019.[86] Mr. Hubbard advised the Company used the RFP responses to define measures for the programs, and estimate penetrations, costs, and load reductions used in the cost/benefit evaluations.[87] Mr. Hubbard testified the Company will implement the Phase VIII DSM Programs through fully outsourced implementation vendors.[88] Mr. Hubbard anticipated the Phase VIII DSM Programs will be available to customers in January 2021.[89]

Mr. Hubbard confirmed the Company has a quality control process associated with rebate application and installation work, and for accuracy of the measures for each program.[90] Mr. Hubbard stated all rebates are approved from the Company's Business Intelligence system and are checked by the Company's EM&V vendor on a monthly basis.[91] Mr. Hubbard also pointed to the Company's field and quality assurance process, which is used to verify the quality of work on a percentage of each vendor's projects.[92]

Mr. Hubbard testified since the *2016 DSM Order*,[93] "the Company and its implementation vendors have worked together to make improvements, where applicable, to

[82] *Id.*
[83] *Id.* at 22-23.
[84] *Id.* at 23.
[85] *Id.* at 24.
[86] *Id.*
[87] *Id.* at 25.
[88] *Id.*
[89] *Id.*
[90] *Id.* at 26.
[91] *Id.* at 26-27.
[92] *Id.* at 27.
[93] *Petition of Virginia Electric and Power Company, For approval to implement new, and to extend existing, demand-side management programs and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia,* Case No. PUE-2016-00111, 2017 S.C.C. Ann. Rep. 384 ("*2016 DSM Order*").

existing controls and procedures surrounding the rebate approval process."[94] Mr. Hubbard maintained the Company has plans for future improvements such as an implementation vendor's new electronic rebate tracking system and its bi-annual internal audit, pursuant to the *2017 DSM Order*.[95]

Mr. Hubbard affirmed the proposed Residential New Construction, the Multifamily, and the Non-residential Midstream Programs promote appliances and equipment that fall within the scope of the federal standards contained in the National Appliance Energy Conservation Act ("NAECA").[96] Mr. Hubbard advised pursuant to Rule 40(1)(e) of the Promotional Allowance Rules, the Company believes the proposed Phase VIII DSM Programs will not have a significant effect on the sales levels of alternative energy suppliers.[97] He also asserted the proposed Phase VIII DSM Programs: (i) conform to Rule 40(1)(c) of the Promotional Allowance Rules to minimize the potential for placing private businesses at an undue competitive disadvantage through the RFP process; and (ii) defined customer classes in compliance with Rule 40(1)(b) of the Promotional Allowance Rules.[98]

Mr. Hubbard outlined the Company's plans for making customers aware of the proposed Phase VIII DSM Programs including: providing information on its website, social media outlets, bill inserts, direct mail, and through in-store promotions; heighten customer awareness through customer newsletters, news releases, outreach seminars, trade shows, and speaking engagements; through experience gained from its pilots and previously-approved DSM Programs; and through various stakeholders, such as industry groups and various counties.[99]

Deanna R. Kesler discussed: (i) the Company's integrated resource planning ("IRP") process and the process for screening and selecting DSM Programs; (ii) the Company's screening criteria for evaluating DSM Programs; (iii) the cost/benefit test results for the proposed Phase VIII DSM Programs and the three Phase VII Programs for which the Company requested expedited approval; and (iv) updated cost/benefit test results for the ongoing DSM Programs.[100]

Ms. Kesler confirmed the Company's IRP process considers capacity and energy savings from DSM Programs.[101] Ms. Kesler advised DSM Programs are included in the Strategist model and are "analyzed based on the opportunity to eliminate, defer or alter the need for future supply-side resources and market purchases."[102] As for the Company's load forecasts, Ms. Kesler stated the Company's peak and energy forecasts are produced by PJM.[103] Ms. Kesler affirmed the assumptions used in this proceeding are consistent with the assumptions used in the PLEXOS

[94] Exhibit No. 5, at 28.
[95] *Id.*
[96] *Id.* at 29.
[97] *Id.* at 29-30.
[98] *Id.* at 30.
[99] *Id.* at 31.
[100] Exhibit No. 6, at 2.
[101] *Id.* at 3.
[102] *Id.* at 4.
[103] *Id.*

model for the Company's 2019 IRP Update Filing.[104] Ms. Kesler described the Strategist model as a modeling and resource optimization tool that considers economics and constraints of operating existing facilities and programs, adding new supply or implementing additional DSM Programs.[105] She listed inputs to the Strategist model supplied by ICF International, Inc. ("ICF") to include: (i) Dominion Zone ("DOM Zone") monthly on-peak and off-peak electricity prices; (ii) DOM Zone annual capacity prices; (iii) projections for sulfur dioxide and nitrogen oxides emissions and estimates for mercury and carbon dioxide; (iv) fuel prices; and (v) renewable energy credits.[106] Ms. Kesler also pointed out that the cost/benefit runs were developed using the RGGI Rate Plan from the Company's 2019 IRP Update Filing.[107]

Ms. Kesler outlined the four cost/benefit tests used to evaluate DSM Programs:

The Participant Cost Test ("PCT") measures quantifiable benefits and cost to program participants.[108] The PCT is calculated as follows:[109]

$$\text{PCT} = \frac{\text{Participant Bill Reduction} + \text{Incentives}}{\text{Participant's Cost}}$$

A result of 1.0 or higher indicates the program passes the PCT.[110]

Utility Cost Test ("UCT"), compares the cost to the utility to the costs that should be avoided.[111] The UCT is calculated as follows:[112]

$$\text{UCT} = \frac{\text{Avoided Capacity Benefit} + \text{Avoided Energy Benefit}}{\text{Utility Administrative Cost} + \text{Utility Incentive Payments}}$$

A result of 1.0 or higher indicates the program passes the UCT.[113]

The Total Resource Cost ("TRC") "compares the total costs and benefits to the utility and participants, relative to the costs to the utility and participants."[114] The TRC test is calculated as follows:[115]

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[104] *Id.* at 5; *Commonwealth of Virginia, ex rel. State Corporation Commission In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2019-00141 ("2019 IRP Update Filing").
[105] Exhibit No. 6, at 6.
[106] *Id.*
[107] *Id.* at 7-8.
[108] *Id.* at 8.
[109] *Id.*
[110] *Id.*
[111] *Id.* at 9.
[112] *Id.*
[113] *Id.*
[114] *Id.*
[115] *Id.*

$$\text{TRC} = \frac{\text{Avoided Capacity Benefit} + \text{Avoided Energy Benefit}}{\text{Utility Administrative Cost} + \text{Customer Costs}}$$

A result of 1.0 or higher indicates the program passes the TRC test.[116]

The Ratepayer Impact Measure ("RIM") determines the impact on utility customers that do not participate in the program.[117] The RIM test is calculated as follows:[118]

$$\text{RIM} = \frac{\text{Avoided Capacity Benefit} + \text{Avoided Energy Benefit}}{\text{Utility Administrative Cost} + \text{Utility Incentive Payments} + \text{Utility Lost Revenues}}$$

A result of 1.0 or higher indicates the program passes the TRC test.[119]

Ms. Kesler cited to § 56-576 of the Code, which states a program is in the public interest if it passes at least three of the four tests outlined above, or if it provides measurable and verifiable energy savings to low-income or elderly customers.[120] Ms. Kesler noted that the absolute value of the net present value ("NPV") of the test may be important when evaluating the RIM test.[121] She affirmed the Company will continue to provide the NPV of benefits and costs for each of the four cost/benefit tests.[122] Ms. Kesler testified the NPV provides a better understanding of the magnitude of the impacts of a DSM Program.[123]

Ms. Kesler reported the test results for each of the Phase VIII DSM Programs as shown below:[124]

Residential Electric Vehicle Peak Shaving				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$295	$1,061	$1,061	$1,061
Total NPV Costs	$2	$809	$479	$809
Net Benefits NPV	$293	$252	$583	$252
Benefit/Cost Ratio	136.42	1.31	2.22	1.31
HB 2789 HVAC Component				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$18,375	$14,961	$14,961	$14,961
Total NPV Costs	$0	$28,059	$28,059	$48,208
Net Benefits NPV	$18,375	$(13,098)	$(13,098)	$(33,247)
Benefit/Cost Ratio	n/a	0.53	0.53	0.31

116 *Id.*
117 *Id.* at 10.
118 *Id.*
119 *Id.*
120 *Id.* at 11.
121 *Id.* at 12.
122 *Id.*
123 *Id.*
124 *Id.* at Schedule 4.

Residential Electric Vehicle EE				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$6,655	$10,569	$10,569	$10,569
Total NPV Costs	$4,115	$7,772	$7,734	$11,119
Net Benefits NPV	$2,539	$2,797	$2,835	$(550)
Benefit/Cost Ratio	1.62	1.36	1.37	0.95
Non-Residential New Construction				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$27,524	$17,925	$17,925	$17,925
Total NPV Costs	$9,696	$14,840	$14,972	$36,054
Net Benefits NPV	$17,829	$3,085	$2,953	$(18,129)
Benefit/Cost Ratio	2.84	1.21	1.20	0.50
Non-Residential Midstream EE Products				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$24,914	$31,507	$31,507	$31,507
Total NPV Costs	$24,332	$12,632	$28,038	$31,456
Net Benefits NPV	$581	$18,876	$3,470	$51
Benefit/Cost Ratio	1.02	2.49	1.12	1.00
Residential EE Kits				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$59,543	$23,564	$23,564	$23,564
Total NPV Costs	$213	$13,126	$2,947	$69,530
Net Benefits NPV	$59,329	$10,438	$20,617	$(45,966)
Benefit/Cost Ratio	278.91	1.80	8.00	0.34
Residential Home Retrofit				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$30,762	$20,564	$20,564	$20,564
Total NPV Costs	$6,274	$9,355	$11,689	$39,926
Net Benefits NPV	$24,488	$11,209	$8,875	$(19,362)
Benefit/Cost Ratio	4.90	2.20	1.76	0.52
Residential Manufactured Housing				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$27,240	$16,250	$16,250	$16,250
Total NPV Costs	$5,629	$11,037	$11,762	$36,747
Net Benefits NPV	$21,610	$5,213	$4,488	$(20,498)
Benefit/Cost Ratio	4.84	1.47	1.38	0.44
Multifamily Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$112,851	$81,028	$81,028	$81,028
Total NPV Costs	$29,042	$22,727	$38,261	$136,338
Net Benefits NPV	$83,809	$58,301	$42,768	$(55,309)
Benefit/Cost Ratio	3.89	3.57	2.12	0.59

Residential New Construction				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$60,439	$48,114	$48,114	$48,114
Total NPV Costs	$34,999	$22,772	$38,489	$70,239
Net Benefits NPV	$25,440	$25,342	$9,625	$(22,125)
Benefit/Cost Ratio	1.73	2.11	1.25	0.69
Non-Residential Small Business Improvement Enhanced				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$57,452	$47,701	$47,701	$47,701
Total NPV Costs	$23,841	$28,331	$35,698	$76,112
Net Benefits NPV	$33,612	$19,370	$12,003	$(28,411)
Benefit/Cost Ratio	2.41	1.68	1.34	0.63

Ms. Kesler reported the Portfolio Analysis Run, including Phase I-VII Programs as shown below:[125]

Program	PCT	UCT	TRC	RIM	2034 MW Reduction	2034 GWh Reduction
Res. Electric Vehicle Peak Shaving	136.42	1.31	2.22	1.31	1	(0)
HB 2789 HVAC Component	n/a	0.53	0.53	0.31	6	19
Res. Electric Vehicle EE/DR	1.62	1.36	1.37	0.95	8	3
Non-Res. New Construction	2.84	1.21	1.2	0.50	6	26
Res. Customer Engagement Program	10.13	1.95	1.54	0.49	12	40
Non-Res. Midstream EE Products	1.02	2.49	1.12	1.00	14	22
Res. EE Kits	278.91	1.80	8.00	0.34	4	45
Res. Smart Thermostat Mgmt (DR)	6.67	4.50	5.95	4.50	90	0
Res. Smart Thermostat Mgmt (EE)	5.97	1.13	1.05	0.35	4	26
Res. Home Retrofit	4.9	2.20	1.76	0.52	7	25
Res. Manufactured Housing	4.84	1.47	1.38	0.44	5	21
Multifamily Program	3.89	3.57	2.12	0.59	28	97
Res. New Construction	1.73	2.11	1.25	0.69	20	38
Non-Res. Small Business Improv. Enh.	2.41	1.68	1.34	0.63	17	55
Portfolio Results					222.1	416.7

Ms. Kesler affirmed the Company ran sensitivity analyses in accordance with Rule 30(7) of the Commission's Cost/Benefit Rules[126] and as required by the *2017 DSM Order*.[127]

[125] *Id.* at Schedule 5.
[126] 20 VAC 5-304-30 (7).
[127] Exhibit No. 6, at 15.

Ms. Kesler contended the results of these analysis comply with the Commission's Promotional Allowances Rule 10.[128]

Ms. Kesler confirmed Dominion Energy has completed an updated cost/benefit analysis of the existing and active DSM Programs. The Company's analysis for the existing and ongoing Programs, except for the Phase VII Programs that were recently launched are shown below:[129]

Air Conditioner Cycling Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$40,218	$82,082	$82,082	$82,088
Total NPV Costs	-	$133,648	$90,023	$133,648
Net Benefits NPV	$40,218	$(51,567)	$(7,941)	$(51,561)
Benefit/Cost Ratio	n/a	0.61	0.91	0.61
Distributed Generation				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$8,480	$17,824	$17,824	$17,824
Total NPV Costs	$1,581	$12,069	$5,439	$13,204
Net Benefits NPV	$6,899	$5,755	$12,386	$4,620
Benefit/Cost Ratio	5.36	1.48	3.28	1.35
Income and Age Qualifying Home Improvement Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$21,863	$9,980	$9,980	$9,980
Total NPV Costs	-	$48,683	$48,683	$72,851
Net Benefits NPV	$21,863	$(38,703)	$(38,703)	$(62,870)
Benefit/Cost Ratio	n/a	0.21	0.21	0.14
Small Business Improvement Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$106,302	$68,650	$68,650	$68,650
Total NPV Costs	$39,243	$38,045	$46,413	$123,234
Net Benefits NPV	$67,059	$30,605	$22,237	$(54,583)
Benefit/Cost Ratio	2.71	1.80	1.48	0.56
Non-Residential Prescriptive Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$76,195	$21,745	$21,745	$21,745
Total NPV Costs	$92,632	$84,476	$111,182	$102,319
Net Benefits NPV	$(16,436)	$(62,731)	$(89,436)	$(80,573)
Benefit/Cost Ratio	0.82	0.26	0.20	0.21

Ms. Kesler affirmed the Company included revised cost/benefit tests that incorporate actual Virginia energy savings as reported in the Company's May 1, 2019 EM&V report.[130] Ms. Kesler acknowledged the Phase 1 AC Cycling Program does not pass three out of the four

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[128] *Id.*

[129] *Id.* at Schedule 7.

[130] *Id.* at 16.

cost/benefit tests.[131] Ms. Kesler advised the Company reviewed cost/benefit results for the AC Cycling Program using different incentive levels and found with a $35 incentive level and capping participation after 2020, the Program passes three of four cost/benefit tests.[132]

For the three Phase VII Programs the Company sought expedited approval to implement based on updated design parameters, Ms. Kesler contended the three Programs continue to pass at least three of four cost/benefit tests.[133] The cost/benefit results reported by Ms. Kesler are provided below:[134]

Residential Smart Thermostat Management Program (DR)				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$6,827	$121,218	$121,218	$121,218
Total NPV Costs	$1,023	$26,939	$20,375	$26,939
Net Benefits NPV	$5,803	$94,279	$100,844	$94,279
Benefit/Cost Ratio	6.67	4.50	5.95	4.50
Residential Smart Thermostat Management Program (EE)				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$34,229	$17,005	$17,005	$17,005
Total NPV Costs	$5,730	$15,071	$16,272	$48,885
Net Benefits NPV	$28,499	$1,934	$733	$(31,880)
Benefit/Cost Ratio	5.97	1.13	1.05	0.35
Residential Customer Engagement Program				
	PCT	UCT	TRC	RIM
Total NPV Benefits	$67,010	$48,603	$48,603	$48,603
Total NPV Costs	$6,617	$24,919	$31,536	$96,628
Net Benefits NPV	$60,393	$23,684	$17,067	$(50,025)
Benefit/Cost Ratio	10.13	1.95	1.54	0.49

Jarvis E. Bates provided system cost projections for the Rate Year, and actual system costs for the 2018 calendar year.[135]

Mr. Bates testified the projected costs for the Phase VIII DSM Programs are primarily based on vendor bids and common costs related to the implementation of the Programs.[136] Mr. Bates explained program design costs for a phase are accumulated in a general bucket before the issuance of an RFP, and are spread to the successful programs.[137] Mr. Bates confirmed after

[131] *Id.* at 16-17.
[132] *Id.* at 17.
[133] *Id.*
[134] *Id.* at Schedule 9.
[135] Exhibit No. 8, at 1-2.
[136] *Id.* at 4.
[137] *Id.* at 5.

the RFP is issued, design costs are tracked by program.[138] Mr. Bates stated common costs are allocated proportionally across all program direct cost expenses.[139]

Mr. Bates asserted the Company's EC Department controls costs related to DSM Programs in a variety of ways including:[140]

> (1) plan-to-actual analysis and reporting; (2) review of costs related specific Program groupings compared to the cost limitations set forth in the [*2009 DSM Order*[141]]; (3) Program penetration/sales tracking; (4) EC Program Manager oversight of Program/vendor activity; and (5) EC Management oversight of both Programs and Program Managers.

In addition, Mr. Bates affirmed Dominion Energy complied with: (i) the Commission's *2013 DSM Order*,[142] which required the tracking of design costs by program to the extent possible; and (ii) the Commission's *2016 DSM Order*, which directed the Company to conduct an internal audit of the controls surrounding incentive and rebate payments.[143]

Mr. Bates confirmed the 2018 True-Up for the Virginia jurisdiction does not include federal customers.[144] Mr. Bates stated there are no projected costs for the EV Pilot Program for the Rate Year.[145] Mr. Bates reported: "[t]hrough June 30, 2019, the Company has incurred approximately 93% of the $825,000 cost limit approved for the EV Pilot Program."[146]

Mr. Bates testified the Company proposes a five-year cap for the Phase VIII DSM Programs of $186 million, or $235 million including lost revenues.[147] Mr. Bates provided the requested cost cap for each Phase VIII DSM Program, as shown below:[148]

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[138] *Id.*
[139] *Id.*
[140] *Id.* at 6.
[141] *Application of Virginia Electric and Power Company, For approval to implement new demand-side management programs and for approval of two rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia*, Case No. PUE-2009-00081, 2010 S.C.C. Ann. Rep. 362 ("*2009 DSM Order*").
[142] *Petition of Virginia Electric and Power Company, For approval to implement new demand-side management programs and for approval of two updated rate adjustment clauses pursuant to § 56-585.1 A 5 of the Code of Virginia*, Case No. PUE-2013-00072, 2014 S.C.C. Ann. Rep. 289 ("*2013 DSM Order*").
[143] Exhibit No. 8, at 6-7.
[144] *Id.* at 8.
[145] *Id.*
[146] *Id.* at 8-9.
[147] *Id.* at 9.
[148] *Id.* at 10. Note, the Cost Limit includes a five percent variance allowance.

Program	Costs ($)	Lost Rev ($)	Total ($)	Cost Limit ($)
Res. Electric Vehicle (EE)	2,769,532	4,849,576	7,619,108	8,000,063
Res. Electric Vehicle (Peak Shaving)	1,992,444	-	1,992,444	2,092,067
Res. Energy Efficiency Kits	10,712,957	8,110,280	18,823,238	19,764,399
Res. Home Retrofit	11,181,002	2,441,957	13,622,959	14,304,106
Res. Manufactured Housing	9,268,578	2,200,306	11,468,884	12,042,328
Res. New Construction	26,733,892	4,522,666	31,256,557	32,819,385
Res./Non-Res. Multifamily	14,566,461	8,733,539	23,300,000	24,465,000
Non-Res. Midstream Energy Efficiency Products	10,504,041	2,120,508	12,624,549	13,255,776
Non-Res. New Construction	15,108,685	1,733,416	16,842,102	17,684,207
Small Bus. Improvement Enhanced	20,255,393	5,239,228	25,494,622	26,769,353
HB 2789 (Heating and Cooling/Health and Safety)	36,024,265	1,672,377	37,696,642	39,581,474

For the three previously approved Phase VII Programs the Company requested expedited consideration, Mr. Bates provided the following program cost limits:[149]

Program	Costs ($)	Lost Rev ($)	Total ($)	Cost Limit ($)
Res. Thermostat (EE)	7,014,645	2,908,500	9,923,145	10,419,302
Res. Thermostat (DR)	10,539,050	-	10,539,050	11,066,002
Res. Customer Engagement	9,311,225	4,903,701	14,214,926	14,925,672

Consistent with the GTSA, Mr. Bates calculated the total amount of spending proposed by the Company on energy efficiency DSM Programs since July 1, 2018, to be approximately $344 million of the required $870 million.[150]

Elizabeth Lecky developed the revenue requirement for Riders C1A, C2A, and C3A for the Rate Year.[151] Ms. Lecky stated, among other things, for Riders C1A and C2A, Dominion Energy seeks recovery of the True-Up of actual costs and revenues for the period of January 1, 2018, through December 31, 2018, for the EV Pilot Program and the following Programs:[152]

- Phase II – Non-residential Distributed Generation ("DG") Program,
- Phase III – Non-residential Window Film Program,
- Phase III – Non-residential Lighting Systems and Controls Program,

[149] *Id.* at 11. Note, the Cost Limit includes a five percent variance allowance.
[150] *Id.* at 11-12.
[151] Exhibit No. 10, at 1.
[152] *Id.* at 2-3.

- Phase III – Non-residential Heating & Cooling Efficiency Program,
- Phase IV – Residential Income and Age Qualifying Home Improvement Program,
- Phase IV – Residential Appliance Recycling Program,
- Phase V – Non-residential Small Business Improvement Program, and
- Phase VI – Non-residential Prescriptive Program.

For Riders C1A, C2A, and C3A, Ms. Lecky confirmed the Company is requesting projected Rate Year costs associated with the Phase II, IV, V, and VI Programs listed above, the EV Pilot Program, and the Phase VII, and VIII Programs.[153]

Ms. Lecky confirmed she used a 9.2 percent ROE for both the Rate Year Projected Revenue Requirement and the Monthly True-Up Adjustment for the period of January 1, 2018, through December 31, 2018.[154] Ms. Lecky advised 9.2 percent was also used for margins on operation and maintenance ("O&M") expenses.[155]

Ms. Lecky calculated the Rate Year Projected Revenue Requirement, the Monthly True-Up Adjustment, and the total revenue requirement for Rider C1A, C2A, and C3A as follows:[156]

	Rider C1A	Rider C2A	Rider C3A	Total
Rate Year Projected Rev. Req.	$3,163,477	$15,343,575	$48,461,666	$66,968,718
Monthly True-Up Adjustment	$(328,054)	$(6,955,245)	$ -	$(7,283,299)
Total Rev. Req.	$2,835,423	$8,388,330	$48,461,666	$59,685,418

Ms. Lecky confirmed the overall proposed revenue requirement of $59,685,418 represents a net increase of approximately $11,076,861 for Riders C1A, C2A, and C3A.[157]

Robert E. Miller explained the Company's proposed revenue requirements for Riders C1A, C2A, and C3A; and the allocation of costs to the Virginia jurisdiction and to the customer classes.[158] Mr. Miller affirmed the approach to determine cost responsibility for the Virginia jurisdiction is the same one approved by the Commission in its *May 2, 2019 Order*.[159]
Mr. Miller outlined the approach to include: (i) directly assign program costs to the jurisdiction based on program participation, and (ii) allocate indirect costs to the jurisdiction based on the jurisdiction's program costs compared to total program costs for the system.[160]

Mr. Miller advised Average & Excess ("A&E") Factor 1 was used to allocate Virginia jurisdictional costs to Virginia jurisdictional customer classes, consistent with the Commission's

[153] *Id.* at 3-4.
[154] *Id.* at 5.
[155] *Id.*
[156] *Id.* at Schedule 1, at 1.
[157] *Id.* at 11.
[158] Exhibit No. 12, at 1.
[159] *Id.* at 2.
[160] *Id.*

May 2, 2019 Order.[161] More specifically, Mr. Miller noted the revenue requirement for Rider C1A is allocated to all customer classes based on A&E Factor 1. [162] He stated the revenue requirement for Rider C2A is allocated to all customer classes based on A&E Factor 1 adjusted to exclude exempt and opt-out customers.[163] Finally, Mr. Miller confirmed pursuant to the GTSA, Rider C3A is allocated based on A&E Factor 1 to all customer classes excluding the large general service customers.[164]

Mr. Miller pointed out system common costs allocated to Phase 1 Programs are not recovered through Riders C1A, C2A, or C3A based on the Commission's *2011 Biennial Review Order*.[165] He affirmed for Phases II through VIII, allocated system common costs are recovered through Riders C1A, C2A, and C3A.[166] For the EV Pilot Program, Mr. Miller stated:

> in the calculations . . . where factors are developed to allocate [c]ommon costs or [c]ommon cost revenue requirements to the Virginia [j]urisdiction or to Riders C1A, C2A, and C3A, neither Program costs nor Program cost revenue requirements associated with the EV Pilot Program are included in either the numerator or denominator used to calculate any allocation factor.[167]

Mr. Miller noted one difference in the allocation of jurisdictional costs to customer classes from the 2018 DSM proceeding is the Company's allocation of jurisdictional costs to customer classes reflects the "behind the meter" adjustment proposed by the Company that is applicable to true-ups beginning in 2018.[168] Mr. Miller described the allocation of jurisdictional costs to customer classes as follows: (i) for Rider C1A, which is comprised of peak-shaving Programs, are allocated to customer classes based on the A&E Factor 1, without any adjustment for exempt customers; (ii) for Rider C2A, which is comprised of all Phase II through Phase VI EE Programs, are allocated to customer classes based on the A&E Factor 1 adjusted for the exempt and opt-out customers; and (iii) for Rider C3A, which is comprised all Phase VII and Phase VIII EE Programs, are allocated to customer classes base on the A&E Factor 1 adjusted for customers exempted under the GTSA.[169]

Mr. Miller allocated the revenue requirement for Riders C1A, C2A, and C3A to customer classes as shown below:[170]

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161 *Id.* at 3.
162 *Id.*
163 *Id.*
164 *Id.*
165 *Id.* at 8-9; *Application of Virginia Electric and Power Company, For a 2011 biennial review of rates, terms, and conditions for the provision of generation, distribution, and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUE-2011-00027, 2011 S.C.C. Ann. Rep. 456 ("*2011 Biennial Review Review*").
166 Exhibit No. 12, at 8.
167 *Id.* at 9.
168 *Id.* at 10.
169 *Id.* at 10-11.
170 *Id.* at Schedule 3.

	Rider C1A		
Customer Class	**Projected Rev. Req.**	**True-Up**	**Total Rev. Req.**
Virginia Jurisdiction	$3,163,477	$(328,054)	$2,835,423
Residential	$1,844,769	$(191,304)	$1,653,465
GS-1	$160,822	$(16,677)	$144,144
GS-2	$436,784	$(45,295)	$391,490
GS-3	$431,030	$(44,698)	$386,332
GS-4	$271,309	$(28,135)	$243,174
Special Contract	$ -	$ -	$ -
Churches	$13,935	$(1,445)	$12,490
Outdoor Lighting	$4,827	$(501)	$4,327

	Rider C2A		
Customer Class	**Projected Rev. Req.**	**True-Up**	**Total Rev. Req.**
Virginia Jurisdiction	$15,343,575	$(6,955,245)	$8,388,330
Residential	$9,573,608	$(4,339,718)	$5,233,890
GS-1	$834,353	$(378,212)	$456,141
GS-2	$2,263,116	$(1,025,871)	$1,237,245
GS-3	$1,937,817	$(878,413)	$1,059,404
GS-4	$637,326	$(288,900)	$348,426
Special Contract	$ -	$ -	$ -
Churches	$72,314	$(32,780)	$39,534
Outdoor Lighting	$25,041	$(11,351)	$13,690

	Rider C3A		
Customer Class	**Projected Rev. Req.**	**True-Up**	**Total Rev. Req.**
Virginia Jurisdiction	$48,461,666	$ -	$48,461,666
Residential	$36,492,555	$ -	$36,492,555
GS-1	$3,139,831	$ -	$3,139,831
GS-2	$8,459,420	$ -	$8,459,420
GS-3	$ -	$ -	$ -
GS-4	$ -	$ -	$ -
Special Contract	$ -	$ -	$ -
Churches	$275,020	$ -	$275,020
Outdoor Lighting	$94,839	$ -	$94,839

Emilia L. Catron calculated the revised RACs and requested a rate effective date for usage on or after the latter of September 1, 2020, or the first of the month that is at least fifteen days after the Commission enters its final order approving Riders C1A, C2A, and C3A.[171] Ms. Catron affirmed the Company calculated its proposed Riders C1A, C2A, and C3A rates in

[171] Exhibit No. 14, at 1-2.

accordance with the Commission's *May 2, 2019 Order*.[172] Ms. Catron developed the proposed rates for Riders C1A, C2A, and C3A for the Rate Year by first forecasting kWh sales for each rate level of each customer class.[173] Ms. Catron calculated the proposed Riders C1A, C2A, and C3A rates by dividing the class revenue requirements, as determined by Company witness Miller, by their respective customer class forecasted kWh sales.[174] Ms. Catron advised that for Riders C2A and C3A, exempt and opt-out customers sales were removed from forecasted sales prior to calculating rates.[175]

The tables below provide a summary of the Company's proposed Riders C1A, C2A, and C3A for the Rate Year:

Rider C1A[176]	
Rate Schedule	**Cents per Distribution kWh Charge**
Schedule 1	$0.0056¢/kWh
Schedule 1P	$0.0056¢/kWh
Schedule 1S	$0.0056¢/kWh
Schedule 1T	$0.0056¢/kWh
Schedule 1W	$0.0056¢/kWh
Schedule DP-R	$0.0056¢/kWh
Schedule 1EV	$0.0056¢/kWh
Schedule EV	$0.0056¢/kWh
Schedule GS-1	$0.0042¢/kWh
Schedule DP-1	$0.0042¢/kWh
Schedule GS-2 (Non-Demand Billing)	$0.0036¢/kWh
Schedule GS-2 (Demand Billing)	$0.0036¢/kWh
Schedule GS-2T	$0.0036¢/kWh
Schedule DP-2	$0.0036¢/kWh
Schedule GS-3, MBR-GS-3, SCR-GS-3	$0.0030¢/kWh
Schedule GS-4 (Primary), MBR-GS-4, SCR-GS-4	$0.0024¢/kWh
Schedule GS-4 (Transmission), MBR-GS-4, SCR-GS-4	$0.0024¢/kWh
Schedule 8 (Primary)	$0.0024¢/kWh
Schedule 8 (Transmission)	$0.0024¢/kWh
Schedule 10 (Secondary)	$0.0030¢/kWh
Schedule 10 (Primary & Transmission)	$0.0024¢/kWh
Schedule 5	$0.0036¢/kWh
Schedule 5C	$0.0056¢/kWh
Schedule 5P	$0.0056¢/kWh
Schedule 6	$0.0030¢/kWh

[172] *Id.* at 3.
[173] *Id.* at 3-4.
[174] *Id.* at 4.
[175] *Id.*
[176] *Id.* Schedule 2, at 1.

Rate Schedule	Cents per Distribution kWh Charge
Schedule 6TS	$0.0030¢/kWh
Schedule 7	$0.0042¢/kWh
Schedule 24	$0.0048¢/kWh
Schedule 25	$0.0048¢/kWh
Schedule 27	$0.0048¢/kWh
Schedule 28	$0.0048¢/kWh
Schedule 29	$0.0048¢/kWh

Rider C2A[177]	
Rate Schedule	**Cents per Distribution kWh Charge**
Schedule 1	$0.0176¢/kWh
Schedule 1P	$0.0176¢/kWh
Schedule 1S	$0.0176¢/kWh
Schedule 1T	$0.0176¢/kWh
Schedule 1W	$0.0176¢/kWh
Schedule DP-R	$0.0176¢/kWh
Schedule 1EV	$0.0176¢/kWh
Schedule EV	$0.0176¢/kWh
Schedule GS-1	$0.0132¢/kWh
Schedule DP-1	$0.0132¢/kWh
Schedule GS-2 (Non-Demand Billing)	$0.0115¢/kWh
Schedule GS-2 (Demand Billing)	$0.0115¢/kWh
Schedule GS-2T	$0.0115¢/kWh
Schedule DP-2	$0.0115¢/kWh
Schedule GS-3, MBR-GS-3, SCR-GS-3	$0.0106¢/kWh
Schedule GS-4 (Primary), MBR-GS-4, SCR-GS-4	$0.0133¢/kWh
Schedule GS-4 (Transmission), MBR-GS-4, SCR-GS-4	$0.0133¢/kWh
Schedule 8 (Primary)	$0.0133¢/kWh
Schedule 8 (Transmission)	$0.0133¢/kWh
Schedule 10 (Secondary)	$0.0106¢/kWh
Schedule 10 (Primary & Transmission)	$0.0133¢/kWh
Schedule 5	$0.0115¢/kWh
Schedule 5C	$0.0177¢/kWh
Schedule 5P	$0.0177¢/kWh
Schedule 6	$0.0106¢/kWh
Schedule 6TS	$0.0106¢/kWh
Schedule 7	$0.0132¢/kWh
Schedule 24	$0.0151¢/kWh
Schedule 25	$0.0151¢/kWh

[177] *Id.* Schedule 2, at 3.

Rate Schedule	Cents per Distribution kWh Charge
Schedule 27	$0.0151¢/kWh
Schedule 28	$0.0151¢/kWh
Schedule 29	$0.0151¢/kWh

Rider C3A[178]	
Rate Schedule	**Cents per Distribution kWh Charge**
Schedule 1	$0.1230¢/kWh
Schedule 1P	$0.1230¢/kWh
Schedule 1S	$0.1230¢/kWh
Schedule 1T	$0.1230¢/kWh
Schedule 1W	$0.1230¢/kWh
Schedule DP-R	$0.1230¢/kWh
Schedule 1EV	$0.1230¢/kWh
Schedule EV	$0.1230¢/kWh
Schedule GS-1	$0.0909¢/kWh
Schedule DP-1	$0.0909¢/kWh
Schedule GS-2 (Non-Demand Billing)	$0.0787¢/kWh
Schedule GS-2 (Demand Billing)	$0.0787¢/kWh
Schedule GS-2T	$0.0787¢/kWh
Schedule DP-2	$0.0787¢/kWh
Schedule GS-3, MBR-GS-3, SCR-GS-3	$0.0000¢/kWh
Schedule GS-4 (Primary), MBR-GS-4, SCR-GS-4	$0.0000¢/kWh
Schedule GS-4 (Transmission), MBR-GS-4, SCR-GS-4	$0.0000¢/kWh
Schedule 8 (Primary)	$0.0000¢/kWh
Schedule 8 (Transmission)	$0.0000¢/kWh
Schedule 10 (Secondary)	$0.0000¢/kWh
Schedule 10 (Primary & Transmission)	$0.0000¢/kWh
Schedule 5	$0.0787¢/kWh
Schedule 5C	$0.1230¢/kWh
Schedule 5P	$0.1230¢/kWh
Schedule 6	$0.0000¢/kWh
Schedule 6TS	$0.0000¢/kWh
Schedule 7	$0.0909¢/kWh
Schedule 24	$0.1045¢/kWh
Schedule 25	$0.1045¢/kWh
Schedule 27	$0.1045¢/kWh
Schedule 28	$0.1045¢/kWh
Schedule 29	$0.1045¢/kWh

[178] *Id.* Schedule 2, at 1.

Ms. Catron calculated that the proposed Riders C1A, C2A, and C3A will increase a residential customer's monthly bill by $0.34, based on monthly usage of 1,000 kWh.[179]

Dan Feng explained how Dominion Energy plans to comply with the Commission's EM&V Rules and provided the EM&V plans for the Phase VIII DSM Programs.[180] In addition, Ms. Feng addressed modifications to Dominion Energy's Standard Technical Engineering Protocol Manual ("STEP Manual") due to updates to the Mid-Atlantic Technical Reference Manual ("TRM") protocols.[181] Ms. Feng advised the Mid-Atlantic TRM is updated annually by the Northeast Energy Efficiency Partnership ("NEEP"), which impacts the STEP Manual's (i) measures that are included in ongoing DSM Programs to incorporate the updates after adjusting for conditions specific to Dominion Energy's service territory, and (ii) measures in new programs that require new protocols.[182]

Ms. Feng testified: "[w]hen the Mid-Atlantic TRM is updated annually and released in June, DNV GL will continue to update the STEP Manual in the fall but will not apply the updated protocols to the same year's program participants."[183] Ms. Feng advised: "[t]he protocols will be applied to measures installed in the next calendar year."[184] Ms. Feng stated the change will be implemented in calendar year 2020.[185] Ms. Feng noted the 2019 protocols in the STEP Manual will be applied to all 2019 and for 2020.[186] Ms. Feng asserted the change will provide Dominion Energy and its implementation vendors with timely information that will enable them to adjust their program implementation strategies.[187] Ms. Feng maintained the proposed adjustment meets the following objectives:

> 1. Savings estimates for [Dominion Energy's] DSM programs remain rigorous, reasonable, and align with federal and state codes and standards;
>
> 2. [Dominion Energy's] EM&V methods remain transparent; and
>
> 3. Alignment with [Dominion Energy's] recently approved DSM program design and launch schedule.[188]

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[179] *Id.* at 6.
[180] Exhibit No. 15, at 2.
[181] *Id.*
[182] *Id.* at 2-3.
[183] *Id.* at 3.
[184] *Id.* at 3-4.
[185] *Id.* at 4.
[186] *Id.*
[187] *Id.*
[188] *Id.* at 5.

Ms. Feng reviewed the TRM update process in Pennsylvania, Massachusetts, and California and concluded "a common theme across these jurisdictions appears to be the intention to give all stakeholders advance notification of changes so that they may plan for them."[189]

VAEEC Direct Testimony

On March 20, 2020, VAEEC filed the direct testimony of Mark James, senior research fellow in the Institute for Energy and the Environment and adjunct professor at Vermont Law School. The direct testimony of Mr. James is summarized below.

Mark James provided an analysis of the Company's DSM Portfolio and implementation approach, and made recommendations for increasing overall efficiency savings of the programs.[190] Mr. James recommended approval of the Phase VIII DSM Programs as well as the resubmitted Phase VII Programs and continued approval of the existing energy efficiency programs.[191] Mr. James stressed the importance of a comprehensive portfolio, and found to a large extent, the Company's proposed Phase VIII DSM Programs are responsive to prior VAEEC recommendations to increase the diversity in the Company's DSM Programs.[192] Mr. James maintained there are opportunities to streamline administrative burdens and to maximize the effectiveness of DSM Programs through grid modernization and AMI integration.[193] Mr. James also asserted the Company's proposed Phase VIII DSM Programs are consistent with the GTSA and the Virginia Clean Economy Act ("VCEA").[194]

As for the VCEA, Mr. James stated the Company will be required to achieve energy efficiency savings in calendar year 2022, of at least 1.25 percent of its 2019 average annual energy jurisdictional retail sales, and a savings of 5.0 percent of its 2019 average annual energy jurisdictional retail sales by 2025.[195] Mr. James contended Dominion Energy is on track to meet its 2022 target and will require additional energy savings to meet VCEA goals thereafter.[196]

Mr. James supported the Company's request to extend the AC Cycling Program and for authorization for the continued use of A-line LED bulbs as a part of the Company's Phase VII Residential Efficient Marketplace and Residential Home Energy Assessment Programs.[197] Mr. James also supported: (i) the Company's requested five-year implementation period; (ii) synchronization of the launch of programs; and (iii) the bundling in the proposed Phase VIII DSM Programs.[198] Mr. James found the Company's proposal for stacking programs together a

[189] *Id.* at 5-6.
[190] Exhibit No. 19, at 3.
[191] *Id.*
[192] *Id.* at 4.
[193] *Id.* at 5.
[194] *Id.* at 5-6.
[195] *Id.* at 6.
[196] *Id.*
[197] *Id.* at 8.
[198] *Id.* at 8-9.

cost-effective means of creating interest and encouraging higher participation levels.[199] In summary, Mr. James advised the Company's plan is achievable as filed and he was confident the Company's estimates for savings can be met.[200]

Mr. James supported the use of benchmarks for the Residential New Construction Program, instead of specifying installed measures, to give flexibility to builders and customers.[201]

Mr. James defined "Upstream Programs" as DSM Programs that target manufacturers; "Downstream Programs" as DSM Programs that target end-use customers; and "Midstream Programs" as DSM Programs that target distributors and customers.[202] Mr. James emphasized the importance of Midstream Programs to address product availability.[203] Mr. James testified: "[e]nergy efficiency may be a lesser consideration or not considered at all when equipment must be replaced quickly."[204]

Mr. James noted "[t]he Company operates its low-income programs through the existing weatherization service provider network."[205] Mr. James suggested the Company could align its reporting requirements with other sources of funds for low-income programs, explore the sharing of information with weatherization service providers, and target customers already receiving bill assistance.[206] In addition, Mr. James recommended eliminating economic barriers that prevent low-income customers from participating in the Residential Manufactured Housing Program and the Residential/Non-residential Multifamily Program.[207]

Mr. James testified Dominion Energy can use its existing AMI technology to test the potential of energy efficiency to reduce peak load and to avoid or defer transmission, distribution, and generation resource investments.[208] Mr. James also pointed to AMI technology as facilitating the transition away from fossil fuels for transportation and heating.[209] Mr. James recommended "an AMI-driven pilot program to test the accuracy of its planning tools and the effectiveness of its marketing strategies."[210]

Mr. James suggested the following additional future DSM Programs:

1) Expanding commercial and industrial offerings;

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[199] *Id.* at 10.
[200] *Id.* at 11.
[201] *Id.* at 16.
[202] *Id.* at 18.
[203] *Id.*
[204] *Id.* (footnote omitted).
[205] *Id.* at 22.
[206] *Id.*
[207] *Id.* at 24.
[208] *Id.* at 25.
[209] *Id.* at 26.
[210] *Id.* at 28.

2) Using AMI technology to aid in the geotargeting of efficiency programs; and

3) Taking advantage of the growth in electric vehicle sales and other battery-driven technology to develop a "Bring Your Own Device" program.[211]

Walmart Direct Testimony

On March 20, 2020, Walmart filed the direct testimony of Lisa V. Perry, senior manager, energy services for Walmart. The direct testimony of Ms. Perry is summarized below.

Lisa V. Perry advised Walmart has approximately 90 stores, 2 distribution centers and related facilities in Dominion Energy's service territory.[212] Ms. Perry focused on the terms and conditions ("T&C") of the DSM Programs and made the following proposals:

- Revise the Company's Phase VI Non-Residential Prescriptive Program to read as follows:

  > The customer hereby agrees to indemnify, defend and hold harmless Dominion Energy Virginia, its parents, subsidiaries, employees, affiliates and agents from any and all liability associated with this project. *This indemnity shall not apply to the extent that a claim under it results from the negligent or willful misconduct of Dominion Energy Virginia, its parents, subsidiaries, employees, affiliates and/or agents.* (Added language in italics).[213]

- Revise the T&C language for the Company's Non-Residential Prescriptive Program and all other programs to quantify and prorate the energy and demand savings that can be claimed by the Company to the portion of the cost of the measures that was rebated under the program.[214]

- Due to operational and liability concerns for customers like Walmart, the Commission should ensure that Dominion Energy cannot assert control over an energy efficiency measure in order to create an energy or demand savings.[215]

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[211] *Id.*
[212] Exhibit No. 16, at 2.
[213] *Id.* at 4.
[214] *Id.*
[215] *Id.* at 5.

- The Commission should limit the information that the Company is authorized to share with PJM to only the specific information that is required for the Company to participate in the PJM market.[216]

Ms. Perry stated Walmart has established company-wide renewable energy goals to be supplied 50 percent by renewable energy by 2025, and reduce emissions in its operations by 18 percent by 2025.[217] Ms. Perry testified Walmart is interested in pursuing DSM Programs offered by public utilities when participation aligns with Walmart's operations and makes economic sense.[218]

Ms. Perry advised "Walmart cannot agree to [T&C] that may disrupt or otherwise interfere with our operations."[219] Ms. Perry noted DSM Program T&C are not established until after a DSM Program is approved by the Commission and can create a barrier for commercial customers.[220] Ms. Perry referred to the two T&C provisions for Dominion Energy's current Non-Residential Prescriptive Program as an example.[221] The first T&C provision required the customer to hold harmless Dominion Energy and its related companies and agents against all claims associated with the program, even if such claims are based on the negligent behavior or willful misconduct.[222] Ms. Perry maintained exposure to such risk for a rebate to encourage energy efficiency measures is not commercially reasonable.[223]

Ms. Perry found the second T&C provision to be problematic because it (i) fails to define "all rights to energy and demand savings;"[224] (ii) may give Dominion Energy the authority to control the energy efficiency measures installed under the program;[225] and (iii) permits Dominion Energy "the unbounded ability to share customer information with PJM, its contractors, and its agents, even where the customer treats information as confidential or commercially sensitive."[226]

Ms. Perry stressed the importance of addressing such T&C provisions that create barriers for commercial customers causing important and impactful energy efficiency opportunities to be lost.[227]

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216 *Id.*
217 *Id.* at 7.
218 *Id.* at 8.
219 *Id.*
220 *Id.* at 8-9.
221 *Id.* at 9-10.
222 *Id.* at 10.
223 *Id.*
224 *Id.* at 11.
225 *Id.* at 11-12.
226 *Id.* at 12.
227 *Id.* at 15.

Environmental Respondents Direct Testimony

On March 20, 2020, Environmental Respondents filed the direct testimony of Jim Grevatt, managing consultant at Energy Futures Group. The direct testimony of Mr. Grevatt is summarized below.

Jim Grevatt provided an analysis of Dominion Energy's proposed Phase VIII DSM Programs based on planning and best practice DSM Portfolios in other jurisdictions, the GTSA, and the VCEA.[228] Mr. Grevatt made the following primary conclusions:[229]

1. [Dominion Energy's] Phase VIII DSM [Petition] includes new programs that have the potential to increase portfolio investment and savings while bringing important energy and bill saving opportunities to customers. Several of the programs focus appropriately on longer-lived measures that can save significant amounts of energy for participants, including in areas that have not received a strong focus in the past;

2. The Company's [Petition] reflects input it received from the Stakeholder Collaborative in 2019 on specific program areas;

3. Many important details regarding the expected budgets and savings associated with the operation of these programs remain opaque, as was the case with its Phase VII application. Data are not presented in a transparent manner and because the Company has failed to devise a means of reporting important details in a way that avoids purported confidentiality concerns, the public will continue to have difficulty understanding the Company's past performance and forward-looking progress;

4. The Phase VIII [Petition] continues the Company's fragmented, piecemeal approach for programs. The Company does not provide, or appear to have any kind of plan for how it will optimize its energy efficiency portfolio through 2028 to meet its statutory obligations; and

5. The Company must dramatically increase its planned savings and investment if it has any hope of complying with the GTSA and VCEA requirements. To do so, it must be thoughtful and strategic in developing a portfolio plan for the remaining GTSA years, 2021 through 2028.

Mr. Grevatt offered the following recommendations:[230]

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228 Exhibit No. 18, at 3.
229 *Id.* at 5-6.
230 *Id.* at 6-7.

1. Approve [Dominion Energy's] proposed Phase VIII DSM [P]rogram [Petition];

2. Direct [Dominion Energy] to develop a strategic plan for its energy efficiency programs for the period 2021-2028 that will lay out a comprehensive portfolio approach to appropriately investing at least $870 million in energy efficiency between 2018 and 2028 that will achieve the VCEA's annual energy savings targets. As part of the strategic plan, I recommend the Commission require the Company to develop a proposal for consolidating and streamlining its programs to improve customer access. Consistent with the VCEA, I recommend that the Commission direct the Company to develop this strategic plan with input and feedback from the stakeholder collaborative. I further recommend that the Commission direct the Company to file this plan concurrently with its next program application, and to ensure that its next program application is consistent with its strategic plan;

3. Approve the Company's request for flexibility to expend limited funds before and after the approved program implementation period in order to maximize the amount of time during which the programs are available for participants;

4. Direct the Company to propose enhancements to the multifamily program in its next application that are specifically tailored to maximizing energy savings in affordable multifamily housing;

5. Direct the Company to add a residential midstream heat pump water heater program component in its next application;

6. Direct the Company to provide data transparency in its next application by providing a "dashboard" in table format that includes costs and savings data for all active and proposed phases of programs, consistent with the model format which is provided as Attachment JG-3; and

7. Require the Company to provide a metric, developed in consultation with the stakeholder group, which provides annual and total persisting energy savings on a program-by-program basis, for each calendar year. Ideally, such metric should be made public.

In light of Covid-19, Mr. Grevatt urged the Commission to focus on near-term energy efficiency opportunities that can be delivered in accordance with social distancing, and on longer-term, post-pandemic energy efficiency opportunities.[231]

Mr. Grevatt was encouraged by the Company's "midstream" approach of certain non-residential efficiency products, and pointed to the success of such programs in other states.[232] Mr. Grevatt was also encouraged by the Company's proposed Residential/Non-Residential Multifamily Program, and encouraged the Company to ensure that it adequately addresses the needs of affordable multifamily properties.[233]

Mr. Grevatt faulted the Company's Petition for failing to provide the proposed expenditures and annual and lifecycle savings by program by year; or provide such information for the combination of all programs for the various active phases.[234] Mr. Grevatt advised VCEA requires the Company to achieve total persisting annual savings.[235]

Mr. Grevatt testified Dominion Energy appears to be on track to achieve the 2022 VCEA savings target, but achieving the mandated year-over-year increases for 2023-2025 "will require an extraordinarily focused effort by the Company."[236] In addition, Mr. Grevatt reported Dominion Energy needs a very large increase in annual spending to meet the mandated $870 million investment target of the GTSA.[237] Furthermore, Mr. Grevatt advised that to meet the requirements of the VCEA and GTSA, the Company must "develop a strategic approach for maximizing the savings it achieves for each dollar invested, and for planning how it will ramp up to a stable program scenario, rather than the overlapping, start and stop program approach that it has used to date."[238] Mr. Grevatt warned the Company's current program layering "creates an unnecessary and unhelpful complexity that is more likely to discourage, rather than encourage, participation."[239]

Mr. Grevatt pointed out that for 2015 through 2018, Dominion Energy reported expenditures below its proposed budget for expenditure in each year, and that planned savings exceeded reported savings for 2015, 2017, and 2018.[240] Mr. Grevatt contended this information "indicates that [Dominion Energy] will need to do a much better job of predicting and meeting its savings targets going forward, based on the VCEA savings requirement."[241] Mr. Grevatt

[231] *Id.* at 10.
[232] *Id.* at 12.
[233] *Id.* at 13-14.
[234] *Id.* at 17.
[235] *Id.* at 19.
[236] *Id.* at 24-26.
[237] *Id.* at 29.
[238] *Id.* at 30.
[239] *Id.* at 33.
[240] *Id.* at 35-37.
[241] *Id.* at 37.

maintained the Company must shift from its program-by-program piecemeal approach to the development of a "portfolios of programs" approach.[242]

Mr. Grevatt expressed support for the Company's request to operate programs on a calendar year basis, and for the Company's request for continued operation of the Phase VI Non-Residential Prescriptive Program.[243]

Staff Direct Testimony

On March 27, 2020, Staff filed the direct testimony of David J. Dalton, senior utilities analyst in the Commission's Division of Public Utility Regulation ("PUR"); Andrew T. Boehnlein, utilities analyst with PUR; Justin Morgan, manager in the Commission's Division of Utility Accounting and Finance ("UAF"); and Chang M. Lee, senior utility specialist with UAF. The direct testimony of each Staff witness is summarized below.

David J. Dalton addressed (i) directives in the Commission's *May 2, 2019 Order* to investigate actual energy savings achieved of specific programs; (ii) the Company's EM&V procedures for its DSM Programs; and (iii) the Company's EM&V Plans for its proposed Phase VIII DSM Programs, with recommendations for future EM&V Plans to comply with the Commission's *May 2, 2019 Order.*[244]

In its *May 2, 2019 Order*, the Commission provided the following concerning evidence of energy efficiency savings:

> The purpose of DSM programs is to reduce energy usage, either at peak times (demand response and peak shaving) or year-round (energy efficiency). Thus, the true test of any DSM program is whether, *in actual practice*, it is the proximate cause of a verifiable reduction in energy usage. This evidence will be, by definition, retrospective in nature.
>
> We direct that [Dominion Energy] shall file, in every future rate adjustment clause proceeding under Code § 56-585.1 A 5, evidence of the actual energy savings achieved as a result of each specific program for which cost recovery is sought, along with revised cost-benefit tests that incorporate actual Virginia energy savings and cost data. We further direct Staff to investigate each such filing, to analyze the program-specific evidence on actual energy savings and the proximate cause thereof, and to report on its findings.
>
> This evidence will be relevant to at least two foreseeable issues: (i) identifying the true cost-effectiveness of DSM

[242] *Id.* at 39.
[243] *Id.* at 41-42.
[244] Exhibit No. 22, at 2.

> programs, which will enable the Commission to determine which programs should be expanded in scope and budget so as to maximize the reductions in energy usage, which ones are least effective and should have their budgets shifted to more effective programs, and which ones are not cost-effective and should be discontinued; and (ii) evaluating any claim by [Dominion Energy] to cost recovery for lost revenues.[245]

Mr. Dalton stated "EM&V processes attempt to balance the accuracy of savings estimates and the costs of measurement."[246] Mr. Dalton agreed "a balance must be found between the accuracy of the EM&V results and the costs of achieving those results."[247] Mr. Dalton noted the increasing importance of DSM to meet legislative and other policy goals also increases the need for the accuracy of EM&V.[248]

Mr. Dalton reviewed EM&V results for the Electric Vehicle (EV) Pilot Program and advised that Staff does not have any recommendations.[249]

Mr. Dalton reported the annualized EM&V results through calendar year 2018 as follows:[250]

Program	**% Planned Gross Participation Achieved**	**% Planned Net Energy Savings (kWh) Achieved**	**% Planned Net Demand Savings (kW) Achieved**	**% Total Planned Costs ($) Expended**
AC Cycling	89%	N/A	82%	75%
Phase II	263%	N/A	73%	45%
Non-Res. Window Film	17%	12%	3%	27%
Non-Res. Htg. & Clg. Efficiency	11%	29%	18%	74%
Non-Res. Light. Syst. & Cont.	58%	121%	117%	119%
Res. Appliance Recycling	99%	94%	93%	97%
Res. IAQHI	148%	159%	74%	94%
Non-Res. SBIP	93%	257%	296%	56%
Non-Res. Prescriptive	125%	17%	61%	75%

[245] *May 2, 2019 Order*, at 8-9.
[246] Exhibit No. 22, at 3 (footnote omitted).
[247] *Id.* at 4.
[248] *Id.* at 8.
[249] *Id.* at 14.
[250] *Id.* at 16.

Mr. Dalton also provided the non-annualized, cumulative savings for these programs as follows:[251]

Program	Through 2018 Net kWh	Through 2018 Net kW	Lifetime Net kWh	Lifetime Net kW
AC Cycling	N/A	50,567	N/A	50,567
Phase II	N/A	5,946	N/A	5,946
Non-Res. Window Film	16,111,846	1,223	53,245,681	1,223
Non-Res. Htg. & Clg. Efficiency	66,434,038	5,521	460,130,118	5,521
Non-Res. Light. Syst. & Cont.	344,518,050	32,363	1,510,974,545	32,363
Res. Appliance Recycling	27,543,494	1,635	88,301,635	1,635
Res. IAQHI	12,503,869	593	84,172,900	593
Non-Res. SBIP	30,421,359	6,236	410,668,443	6,236
Non-Res. Prescriptive	3,683,124	2,621	36,342,163	2,621
Total	**501,215,780**	**106,705**	**2,643,835,485**	**106,705**

Mr. Dalton advised that Staff does not have confidence in the accuracy of the savings estimates provided by the Company for programs other than the Residential AC Cycling and Phase II Programs.[252] Specifically, Mr. Dalton expressed concern with the use of deemed values in estimating "actual" savings.[253] Mr. Dalton recommended "that, to the fullest extent practicable, the Company measure, either directly or through suitable random sampling and statistical analysis, all variables used in estimating energy and demand savings resulting from the DSM programs."[254]

Mr. Dalton expressed concerns regarding the Company's Phase VI Non-Residential Prescriptive Program, which has experienced a participation level approximately 125 percent more than planned, but has experienced only 17 percent of its planned net energy savings.[255]

Mr. Dalton also questioned the EM&V as it relates to the Phase III, Phase IV, Phase VI Programs and the use of numbers developed as program design assumptions as actual savings

[251] *Id.* at 17.
[252] *Id.* at 17-18.
[253] *Id.* at 19.
[254] *Id.* at 20.
[255] *Id.* at 25.

attributed to these programs.[256] Mr. Dalton recommended the Company survey participants to develop appropriate Net-to-Gross ("NTG") ratios and conduct random samples to measure individual installations.[257]

Mr. Dalton pointed out the Phase VI – Non-Residential Prescriptive Program, based on data reported in the 2019 EM&V Report failed all four of the Cost/Benefit Tests.[258] Based on the Commission's *May 2, 2019 Order*, Mr. Dalton testified "the Commission may want to consider discontinuing this program."[259]

Mr. Dalton noted Dominion Energy did not conduct a cost/benefit analysis on now-closed programs.[260] Mr. Dalton advised such analysis would be of limited value, but if the Commission wants this information, the Company should be directed to develop a method for performing cost/benefit analysis for closed programs for future filings.[261]

Mr. Dalton confirmed the Company has provided preliminary EM&V plans for its proposed Phase VIII DSM Programs and its re-proposed Phase VII DSM Programs.[262] In addition, Mr. Dalton stated Staff is unopposed to the proposed EM&V Plan for the Air Conditioner Cycling Program extension.[263] Mr. Dalton provided the following comments regarding the EM&V Plans for specific programs:

- Residential Electric Vehicle Program (DR)
- Residential Electric Vehicle Program (Peak Shaving)
- Residential Thermostat Program (DR)

Mr. Dalton confirmed Staff is unopposed to the Company's proposed EM&V Plans for these programs and noted the Company will not use deemed savings to estimate the load reductions for these programs.[264] Nonetheless, Mr. Dalton maintained sub-metering of a representative sample could increase the certainty of savings and is an option for the Commission.[265]

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[256] *Id.* at 27.
[257] *Id.*
[258] *Id.* at 29-30.
[259] *Id.* at 30.
[260] *Id.* at 31.
[261] *Id.*
[262] *Id.* at 33.
[263] *Id.*
[264] *Id.* at 36.
[265] *Id.*

- Non-Residential Midstream Energy Efficient Products Program

  Mr. Dalton questioned the Company's estimation of the baseline level of consumption, which is based on the STEP Manual and whether this reflects the replaced equipment or the equipment the customer would have purchased absent the program.[266]

- Residential New Construction Program

  Mr. Dalton took issue with the Company's baseline consumption estimate which is based on a home built to meet building code energy efficiency requirements.[267] Mr. Dalton pointed to the Ryan Home website that states all its homes are built to exceed industry standards for energy efficiency.[268] Mr. Dalton recommended "the Company and DNV GL perform appropriate studies of actual new homes built within the Company's service territory by each builder to develop an appropriate baseline reflecting the apparent increased efficiency of new homes built therein."[269]

- Non-Residential New Construction Program

  Mr. Dalton testified the proposed EM&V Plan for this program estimates baseline consumption using a combination of operating schedule and setpoint and controls schedules for model inputs.[270] Mr. Dalton noted the Company stated DNV GL may employ a baseline study to determine whether minimum building code energy efficiency requirements are an appropriate assumption.[271] Mr. Dalton recommended the Commission require such a study.[272]

- Small Business Improvement Enhanced Program

  Mr. Dalton expressed concern with the Company's estimated baseline based on the STEP Manual.[273] Mr. Dalton recommended developing a baseline based on information from existing equipment that is replaced.[274]

Mr. Dalton argued the use of deemed savings estimates in the evaluation of DSM Programs fail to be appropriately specific or certain to adequately respond to the Commission's direction in its *May 2, 2019 Order*.[275] Mr. Dalton also expressed concern regarding the timing,

[266] *Id.* at 39.
[267] *Id.* at 42.
[268] *Id.* at 42-43.
[269] *Id.* at 43.
[270] *Id.* at 44.
[271] *Id.*
[272] *Id.*
[273] *Id.* at 45.
[274] *Id.*
[275] *Id.* at 46.

or lack of clarity on if, and when, the Company implements the Evaluated Savings Approaches to quantify realized savings when it uses Deemed Savings Approaches.[276]

Mr. Dalton questioned the appropriateness and accuracy of assumed values used as inputs in estimating energy and demand savings attributable to the proposed DSM Programs.[277] Mr. Dalton recommended measurement of as many variables as practicable.[278] Because the development of detailed data collection specifications will begin after approval by the Commission, Mr. Dalton was unable to provide specific recommendations concerning data collection.[279]

In addition, Mr. Dalton suggested that the Company perform repeated sampling of its participants in its DSM Programs, possibly for the duration of the program.[280] Mr. Dalton recommended the Company commit to performing a NTG assessment of each of its proposed DSM Programs.[281]

Andrew T. Boehnlein, among other things, (i) analyzed the cost-effectiveness of the proposed Phase VIII DSM Programs, the re-proposed Phase VII Programs, and the AC Cycling Program; (ii) examined the Company's proposed jurisdictional and class revenue apportionment; and (iii) examined the proposed rate design for Riders C1A, C2A, and C3A.[282]

Mr. Boehnlein reviewed the Company's cost/benefit tests for the proposed Phase VIII DSM Programs, the re-proposed Phase VII Programs, and the AC Cycling Program and noted that all the proposed programs pass at least three of the four tests, except for the program filed pursuant to HB 2789.[283] Mr. Boehnlein reviewed the assumptions and program design for the proposed Phase VIII DSM Programs and made the following findings:

- Residential Electric Vehicle Program (EE and DR)

  For the DR portion of this program, Mr. Boehnlein questioned whether the peak shaving benefits will be realized if customers are not plugging in their cars coincidentally with the peak, and noted low participation likely will have an impact on the program's cost/benefit performance.[284] For the EE portion of this program, Mr. Boehnlein testified because customers are required to enroll in the DR program to participate, it is more appropriate to roll this program into the Residential Electric Peak Shaving Program.[285]

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[276] *Id.* at 47.
[277] *Id.* at 49.
[278] *Id.* at 50.
[279] *Id.*
[280] *Id.* at 53.
[281] *Id.* at 54.
[282] Exhibit No. 20, at 5.
[283] *Id.* at 14.
[284] *Id.* at 16.
[285] *Id.* at 17.

- Residential Electric Vehicle Peak Shaving Program

  Mr. Boehnlein also questioned whether the peak shaving benefits will be realized if customers are not plugging in their cars coincidentally with the peak.[286]

- Residential Energy Efficiency Kits

  Mr. Boehnlein advised the Company projects providing 30,000 "Welcome Kits" each year, and noted customers may not immediately contemplate energy efficiency strategies after moving into a new home. [287]

- Residential Home Retrofit Program

  Mr. Boehnlein confirmed participants must first engage a Building Performance Institute certified technician to conduct a whole home energy assessment at an estimated cost to the participant of between $250 and $400.[288] Participants would receive incentives to offset the cost of measures recommended by the technician.[289] Mr. Boehnlein maintained this program is similar to the Phase VII Home Energy Assessment Program, and one of these programs may be a substitute for the other and cause that program to fail to achieve its projected level of savings.[290]

- Residential Manufactured Housing Program

  Mr. Boehnlein testified that this program is similar to the Phase VIII Residential Home Retrofit Program and requires the participant to pay for an energy audit, expected to cost between $200 and $400.[291]

- Residential New Construction

  Mr. Boehnlein recommended "controls be in place to ensure that . . . any builder receiving an incentive from Dominion Energy passes through a price discount of no less than the amount of the incentive received from Dominion Energy, at the time of the home's sale."[292] In addition, Mr. Boehnlein questioned the program's assumption that the comparison home is built to minimum code standards.[293] In support, Mr. Boehnlein referred to Ryan Homes website that their homes are built to exceed industry standards for energy efficiency.[294]

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[286] *Id.* at 18.
[287] *Id.* at 19.
[288] *Id.*
[289] *Id.*
[290] *Id.* at 20.
[291] *Id.*
[292] *Id.* at 23.
[293] *Id.*
[294] *Id.*

- Residential/Non-Residential Multifamily Program

  Mr. Boehnlein maintained "if the participation or savings levels of this program do not meet the Company's projections, there will likely be some negative impacts on this program's cost/benefit scores."[295]

- Non-Residential Midstream EE Products Program

  Mr. Boehnlein recommended "the data set include the delivery location and contact information of the purchaser in order to support accurate EM&V and follow-up."[296] Mr. Boehnlein contended without this information it may be impossible to measure the actual energy savings.[297] In addition, Mr. Boehnlein recommended that the incentives be flowed through to the customers to encourage the customer to purchase and install qualifying equipment.[298] Mr. Boehnlein testified if customers do not receive explicit discounts, "robust surveying of customers will be needed to verify the Company's assumed net-to-gross ratio and assess the actual level of free ridership."[299]

- Non-Residential New Construction

  Mr. Boehnlein contended "robust surveying of customers will be needed to verify the Company's assumed net-to-gross ratio and assess the actual level of free ridership."[300] Mr. Boehnlein advised that lower participation levels may indicate customers find some measures are not cost effective and may depress the program's cost/benefit test results.[301]

- Small Business Improvement Enhanced Program

  Mr. Boehnlein noted the similarity of some of the measures, such as window film, are available through other programs such as the Phase V Small Business Improvement Program.[302] Mr. Boehnlein recommended "customers be prohibited from installing duplicate measures under [this program], until the measure's Expected Useful Life, as filed in the Phase V Program, has expired."[303]

[295] *Id.* at 25.
[296] *Id.* at 26.
[297] *Id.*
[298] *Id.* at 27.
[299] *Id.* at 28.
[300] *Id.* at 29.
[301] *Id.*
[302] *Id.*
[303] *Id.*

- HB 2789 (Heating and Cooling/Health and Safety)

  Mr. Boehnlein advised this program met only two of three requirements of HB 2789, and serves as a prerequisite for the requirement that provides incentives to customers who participate in the Heating and Cooling/Health and Safety component for the installation of equipment that derives electric energy from sunlight.[304]

Mr. Boehnlein reviewed the assumptions and program design for the re-proposed Phase VII DSM Customer Engagement Program and recommended, if approved, "the Company and its implementation vendor be required to track individual customer response to the program and remove customers shown to have persistent non-response or increased usage after receipt of treatment from the treatment group as appropriate."[305]

Mr. Boehnlein reviewed the assumptions and program design of the Company's proposed extension of the AC Cycling Program and stated based on the program's current design it would not pass the cost/benefit tests.[306] Mr. Boehnlein advised the Company has capped participation at the end of 2020, and reduced the incentive from $40 to $35.[307] Mr. Boehnlein maintained the lower incentive may reduce participation and negatively impact cost/benefit results.[308]

Mr. Boehnlein did not oppose the Company's request to continue to offer A-Line LED bulbs beyond 2019.[309]

Mr. Boehnlein found the Company's cost allocation methodology to be consistent with the methodology approved by the Commission in its *May 2, 2019 Order*.[310] Mr. Boehnlein did not raise any issues concerning the allocation of costs, the calculation of the proposed Riders C1A, C2A, and C3A, or the Company's proposal to administer these programs on a calendar year basis.[311]

Mr. Boehnlein stated:

> Should the Commission approve a revenue requirement that differs from the Company's requested revenue requirement of approximately $59.7 million in this case, Staff recommends that the Riders C1A, C2A, and C3A surcharges should be adjusted proportionately.[312]

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304 *Id.* at 30.
305 *Id.* at 32.
306 *Id.* at 33.
307 *Id.* at 34.
308 *Id.*
309 *Id.*
310 *Id.* at 35.
311 *Id.* at 35-37.
312 *Id.* at 37.

Justin Morgan addressed: (i) the Company's caps for the proposed programs; (ii) Staff's proposed revenue requirement; (iii) Staff's audit of program costs for 2018; (iv) the Company's internal audit of its DSM Programs; and (v) the Company's progress towards the energy efficiency goals of the GTSA.[313]

Mr. Morgan recommended:

1. Approval of a total revenue requirement of $59,685,418, composed of $48,461,666 for Rider C3A, $8,388,330 for Rider C2A, and $2,835,423 for Rider C1A;

2. Approval of program-specific cost caps for the Company's proposed programs that exclude lost revenues;

3. That the Company continue to conduct internal audits of the DSM programs internal controls on a biennial basis; and

4. That the Company continue to monitor its progress towards the $870 million goal of [the GTSA], and to provide updates to this amount in its annual energy efficiency filings with the Commission.[314]

Mr. Morgan reported the Company proposes a five-year spending cap for the Phase VIII DSM Programs (and the three Phase VII Programs that were not launched) of $186 million or $235 million including lost revenue.[315] Mr. Morgan noted the Company is not proposing the recovery of lost revenues in this proceeding.[316] Based on the Commission's directives in its *May 2, 2019 Order*, Mr. Morgan recommended approval of cost caps for each proposed program, excluding lost revenues, as shown below:[317]

Program	**Costs ($)**	**5% Variance ($)**	**Cost Limit ($)**
Phase VIII			
Res. Electric Vehicle (EE & DR)	2,769,532	138,477	2,908,009
Res. Electric Vehicle (Peak Shaving)	1,992,444	99,622	2,092,066
Res. Energy Efficiency Kits	10,712,957	535,648	11,248,605
Res. Home Retrofit	11,181,002	559,050	11,740,052
Res. Manufactured Housing	9,268,578	463,429	9,732,007
Res. New Construction	26,733,892	1,336,695	28,070,587
Res./Non-Res. Multifamily	14,566,461	728,323	15,294,784
Non-Res. Midstream Energy Efficiency Products	10,504,041	525,202	11,029,243

313 Exhibit No. 24, at 4.
314 *Id.*
315 *Id.* at 5.
316 *Id.* at 7.
317 *Id.*

Program	**Costs ($)**	**5% Variance ($)**	**Cost Limit ($)**
Non-Res. New Construction	15,108,685	755,434	15,864,119
Small Bus. Improvement Enhanced	20,255,393	1,012,770	21,268,163
HB 2789 (Heating and Cooling/Health and Safety)	36,024,265	1,801,213	37,825,478
Phase VII			
Res. Thermostat (EE)	7,014,645	350,732	7,365,377
Res. Thermostat (DR)	10,539,050	526,953	11,066,003
Res. Customer Engagement	9,311,225	465,561	9,776,786
Total	**185,982,170**	**9,299,109**	**195,281,279**

Mr. Morgan confirmed Staff audited: (i) the supporting documentation for the program specific and common costs included in the 2018 true-up; and (ii) the incentive payments.[318] Mr. Morgan testified for the audit of the program specific and common costs included in the 2018 true-up, Staff: (i) verified the documentation supporting the recorded entry; (ii) verified costs were correctly classified; and (iii) verified the amounts were correctly calculated.[319] For the audit of incentive payments, Mr. Morgan affirmed Staff: (i) verified the incentive payment; (ii) verified the work performed and equipment installed met the program rules; and (iii) verified that the incentive amounts were correctly calculated.[320] Mr. Morgan stated Staff did not discover any material discrepancies in its audit.[321]

Mr. Morgan advised in 2019 Dominion Energy conducted an internal audit of its controls over incentive/rebate payments to determine if such controls were functioning properly.[322] Based on the results of the internal audit, Mr. Morgan recommended "that the Company continue to conduct internal audits of the DSM program internal controls on a biennial basis in order to ensure that the current controls remain functional and that newly established controls related to new programs are effective."[323]

Regarding the requirements of the GTSA, Mr. Morgan stated with the proposals in this proceeding, Dominion Energy will have proposed approximately $344.2 million of the required $870 million through 2028.[324]

Chang M. Lee addressed the capital structure and cost of capital for Riders C1A, C2A, and C3A.[325] Mr. Lee accepted the Company's use of its December 31, 2018, ratemaking capital

[318] *Id.* at 9.
[319] *Id.* at 9-10.
[320] *Id.* at 10.
[321] *Id.* at 11.
[322] *Id.* at 11-12.
[323] *Id.* at 13.
[324] *Id.* at 13-14.
[325] Exhibit No. 27, at 1.

structure determining the Actual Cost True-Up Factor for calendar year 2018, and the Projected Cost Recovery Factor.[326] Mr. Lee also accepted the Company's cost of 2.641 percent for short-term debt, 4.472 percent for long-term debt, and use of an ROE of 9.20 percent.[327] Thus, Mr. Lee recommended the overall weighted cost of capital proposed by the Company of 6.836 percent.[328]

Dominion Energy Rebuttal Testimony

On April 10, 2020, Dominion Energy filed the rebuttal testimony of Nathan J. Frost; Michael T. Hubbard; Deanna R. Kesler; Dr. Miriam Goldberg, executive strategy advisor for DNV GL; and Dan Feng. The rebuttal testimony of each witness is summarized below.

Nathan J. Frost responded to testimony regarding: (i) the stakeholder process in the GTSA; (ii) the requirement for the Company to develop a proposed program of energy conservation measures under the GTSA; and (iii) the potential for energy savings requirements under the VCEA.[329] Mr. Frost noted the general support in this proceeding for the Company's proposed Phase VIII DSM Programs, the Phase VII DSM Programs brought back for Commission review, the continuance of the A-line bulb measure, and the Company's revised fining and implementation timing.[330] Mr. Frost advised the Company would "not oppose a directive from this Commission to coordinate with Staff in determining the appropriate level of EM&V for DSM that balances the costs of that work against the value achieved in potentially obtaining more precise savings values."[331]

Mr. Frost testified due to the COVID-19 pandemic, in mid-March 2020, Dominion Energy suspended all new appointments for programs requiring in-home and business visits.[332] He asserted after the Governor's shelter-in-place measures are lifted "the Company plans to safely resume halted DSM program operations and will be able to provide an update in our next DSM annual filing of the impact on its implementation of programs and EM&V plans."[333]

Mr. Frost responded to Environmental Respondents witness Grevatt's testimony concerning the Company's "staggered" approach to its DSM Programs.[334] Mr. Frost maintained the Company is committed to improving all customer experiences and looks forward to the discussions of the stakeholder group.[335] Mr. Frost confirmed the Company is also willing to explore and discuss with stakeholders the development of a plan to achieve the legislative

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[326] *Id.* at 1-2.
[327] *Id.* at 3-4.
[328] *Id.* at 4.
[329] Exhibit No. 28, at 1.
[330] *Id.* at 2.
[331] *Id.* at 3.
[332] *Id.*
[333] *Id.* at 4.
[334] *Id.*
[335] *Id.*

requirements of the GTSA and VCEA.[336] Mr. Frost affirmed the Company considers the stakeholder forum to be "the best opportunity to develop a plan that will ultimately achieve the DSM policy goals set by the Commonwealth."[337]

In response to the recommendation of VAEEC witness James to use AMI systems to provide enhanced feedback to participants on their energy consumption and begin a pilot program to test the accuracy of AMI's planning tools and marketing strategies, Mr. Frost recognized AMI can enhance the delivery and measurement of DSM Programs, and stated that these ideas should be explored in the stakeholder process.[338]

Mr. Frost agreed with Staff witness Morgan's recommendation for the Company to continue internal audits of its DSM Programs' internal controls on a biennial basis.[339] In response to Staff witness Dalton concerning EM&V protocols, Mr. Frost pointed out the Company has annually filed EM&V reports with the Commission since the inception of its DSM Programs in 2009, without comments or critiques as to their validity.[340] Mr. Frost stated:

> [T]he company is committed to dedicating additional resources to EM&V going forward so that there is complete confidence that the savings reported in these and other proceedings are valid and being recognized by our customers, and we will work with Staff to improve the rigor of EM&V going forward, balancing the need for improved data precision with the resulting additional costs that will necessarily be borne by our customers.[341]

Michael T. Hubbard addressed comments concerning the implementation and administration of approved DSM Programs, as well as the Company's proposed Phase VIII DSM Programs.[342]

Mr. Hubbard updated participation, and energy and demand savings presented in his direct testimony, including: (i) the Residential AC Cycling Program had 74,706 enrolled customers as of February 29, 2020;[343] (ii) the Non-residential DG Program has 21 customer generators enrolled;[344] (iii) the Company's IAQHI Program as of March 31, 2020, has performed 23,589 audits for eligible customers;[345] (iv) the Company's Small Business Improvement Program as of March 31, 2020, has provided approximately 2,235 on-site energy assessment incentives, with approximately 2,100 customers installing rebate-qualifying measures, resulting

[336] *Id.* at 5.
[337] *Id.*
[338] *Id.* at 6.
[339] *Id.*
[340] *Id.* at 7.
[341] *Id.*
[342] Exhibit No. 29, at 1.
[343] *Id.* at 2.
[344] *Id.* at 2-3.
[345] *Id.* at 3.

in approximately 3,000 total issued rebate incentives;[346] and (v) the Company's Non-residential Prescriptive Program as of March 31, 2020, has provided incentives to approximately 1,759 customers, with 39 participating contractors.[347]

Mr. Hubbard acknowledged the lower-than-expected energy savings for the Non-residential Prescriptive Program.[348] Mr. Hubbard contended the higher-than-expected participation and continued interest in the program "highlight the need for retention of the program while we conduct further analysis."[349] Mr. Hubbard stressed this is the only DSM Program option currently available to larger non-residential customers.[350] Mr. Hubbard disagreed with Environmental Respondents witness Grevatt's recommendation that the Commission direct the Company to address the measure mix and increase participation to improve cost-effectiveness, as being unnecessary.[351] Mr. Hubbard maintained such measures and additional measures are under consideration to enhance the program for review in a future filing.[352]

Regarding Staff witness Boehnlein's concern that the Residential EV Program will fail to fully realize the benefits if cars are not plugged in coincidentally during the Company's system peak, Mr. Hubbard noted such a variance is accounted for in the Company's cost/benefit analysis through the use of time-varying load profile data.[353] Mr. Hubbard disagreed with Staff witness Boehnlein's recommendation to roll the Residential EV EE Program and DR Program into the Residential Peak Shaving Program.[354] Mr. Hubbard contended this program meets the definition of an EE Program.[355]

Mr. Hubbard advised the Company does not object to Mr. Boehnlein's recommendation to collect the delivery location and contact information of the purchaser for the Non-residential Midstream Program, but noted the purpose of this program "is to achieve energy savings that cannot readily be obtained through direct customer rebates."[356] Mr. Hubbard disagreed with Mr. Boehnlein's assertion that availability and uptake are two different behaviors that involve two different parties.[357] Mr. Hubbard asserted "the Program is intended to provide incentives to the distribution/retailer to maintain an inventory of higher efficiency equipment."[358]

[346] *Id.*
[347] *Id.*
[348] *Id.*
[349] *Id.*
[350] *Id.* at 4.
[351] *Id.* at 5.
[352] *Id.*
[353] *Id.* at 6.
[354] *Id.* at 7.
[355] *Id.* at 7-8.
[356] *Id.* at 8.
[357] *Id.*
[358] *Id.* at 9.

Mr. Hubbard agreed in principle with Mr. Boehnlein's recommendation to prohibit a customer from installing duplicate measures under the Small Business Enhanced Program if they received measures in the Company's Phase V Small Business Improvement Program.[359] Mr. Hubbard affirmed "the Company will not issue incentives in the Phase VIII Program if a duplicate measure is installed on the same equipment that received the same measure in the Phase V Program."[360]

Mr. Hubbard addressed Mr. Boehnlein's observation that the Phase VIII Home Retrofit Program and the Phase VII Home Energy Assessment Program are substitutes for each other, which may make it difficult for both programs to achieve their projected level of savings.[361] Mr. Hubbard maintained the programs are targeted to different residential customers and it is therefore unlikely the programs would impact the other's participation.[362]

Mr. Hubbard disagreed with Mr. Boehnlein's recommendation to track individual customer response to the Customer Engagement Program and to remove customers shown to have persistent non-response or increased usage after receipt of treatment from future program treatments.[363] Mr. Hubbard explained treatment and control customers establish a baseline for the measurement of behavioral savings.[364] Mr. Hubbard asserted Staff's modification to the baseline "would degrade the evaluation of the program results."[365]

Mr. Hubbard disagreed with Mr. Boehnlein's conclusion that the Residential New Construction Program does not cause Ryan Homes to act differently.[366] Mr. Hubbard testified that less than 3 percent of all new homes built in the Company's service territory meet ENERGY STAR® certification guidelines, Ryan Homes does not indicate they build homes to ENERGY STAR® requirements.[367] Mr. Hubbard also disagreed with Mr. Boehnlein's recommendation that Dominion Energy establish controls to ensure that incentives received under the Residential New Construction Program are passed through a price discount at the time of the home's sale in an amount at least equal to the incentives received.[368] Among other things, Mr. Hubbard contended this would be a burden on builders and largely unenforceable.[369]

Mr. Hubbard accepted Mr. Boehnlein's comments on the Company's proposed HB 2789 Program (Heating and Cooling/Health and Safety) and agreed with his recommendations concerning continued offering of A-line LED bulbs in the Phase VII Residential Marketplace

[359] *Id.*
[360] *Id.*
[361] *Id.* at 10.
[362] *Id.*
[363] *Id.* at 10-11.
[364] *Id.*
[365] *Id.* at 11.
[366] *Id.*
[367] *Id.* at 12.
[368] *Id.* at 12-13.
[369] *Id.* at 13.

and Residential Home Energy Assessment Programs, to continue to monitor federal lighting standards and to cease offering if the applicable lighting standards change.[370]

Regarding the observations made by Environmental Respondents witness Grevatt concerning the staggered approach to the Company's DSM Portfolio, Mr. Hubbard affirmed the Company "will make every effort to incorporate his suggestions, along with those of the other stakeholders."[371] Mr. Hubbard disagreed with Mr. Grevatt's recommendation for the Company to develop a metric with the stakeholder group, which provides annual and total persisting energy savings on a program-by-program basis for each calendar year.[372] Mr. Hubbard maintained the Company's annual EM&V report provides sufficient information.[373]

Mr. Hubbard welcomed input from Mr. Grevatt on developing portfolios of programs to meet the requirements of the VCEA.[374] Mr. Hubbard agreed with Mr. Grevatt's testimony that to meet the required targets, it is best to revisit current programs and expand participation rather than simply proposing more programs.[375] Regarding Mr. Grevatt's recommendation that the Commission require the Company to propose enhancements to the Multifamily Program to address affordable housing concerns, Mr. Hubbard pointed out "the Company's Income & Age Qualifying Home Improvement Program has served primarily the multifamily segment since 2015."[376] Mr. Hubbard also noted the Company's proposed Non-residential Multifamily Program can be used by low income property owners for their common areas.[377]

As for Mr. Grevatt's testimony on near term energy efficiency programs that can be implemented with social distancing measures in place, Mr. Hubbard pointed to the Company's Residential Marketplace Program, which permits customers to order products and self-install, and the proposed Residential Customer Engagement Program, which provides customers with detailed data on their energy usage and recommended possible savings measures.[378]

Mr. Hubbard acknowledged the recommendations of VAEEC witness James that the Company should consider standardizing processes for its low-income programs, both regulated and non-regulated, and align its process with the federal Weatherization Assistance Program ("WAP").[379] Mr. Hubbard noted flexibility among programs can be a benefit.[380] Mr. Hubbard pointed to a special stakeholder subgroup focused on low income DSM Program improvements.[381] He also advised the Company plans to use local area median income instead

[370] *Id.* at 14.
[371] *Id.* at 15.
[372] *Id.* at 16.
[373] *Id.*
[374] *Id.*
[375] *Id.* at 17.
[376] *Id.* at 18.
[377] *Id.*
[378] *Id.* at 18-19.
[379] *Id.* at 19.
[380] *Id.*
[381] *Id.*

of state median income "to ensure customers in need are not unintentionally excluded from participation in different areas of the state."[382]

Mr. Hubbard reviewed the future DSM Programs recommended by Mr. James and agreed all are worth evaluating and maintained the Company's "next [RFPs] will largely address Mr. James' recommendations and will solicit input from the market."[383]

Mr. Hubbard responded to Walmart witness Perry's concerns with DSM Program T&C by pointing out that the T&C of a DSM Program address operational items such as eligibility and payment of incentives.[384] Mr. Hubbard maintained because the Company is not guaranteed any cost recovery for program design work until a program is approved by the Commission, full operational details, including contracts, are not developed until after programs are approved.[385]

In response to Ms. Perry's testimony regarding the indemnity provision for the Non-residential Prescriptive Program, which does not exempt negligence or willful misconduct of Dominion Energy or its affiliates, Mr. Hubbard advised the Company has used similar T&C for its non-residential programs without complaint for "a number of years."[386] In addition, Mr. Hubbard contended the provision is "not dissimilar" from other program T&C used by other utilities.[387] Mr. Hubbard noted a contractor chosen by the customer, and not Dominion Energy performs the installation work associated with the DSM Programs.[388]

As to the issue raised by Ms. Perry concerning what control the Company may exert on measures installed in Walmart's facilities to realize energy and demand savings, Mr. Hubbard maintained the vast majority of measures are not physically controllable in any sense.[389] For measures with remote control, Mr. Hubbard confirmed a participant would be required to explicitly grant the Company permission to remotely control the devise.[390]

Mr. Hubbard responded to Ms. Perry's concerns that the T&C permit the Company to provide commercially sensitive information about Walmart and its operations to PJM and affirmed "[a]ll information provided by the Company to PJM is required to be provided and is done so on a confidential basis."[391] Moreover, Mr. Hubbard advised that the Company has no ability to enforce T&C relative to PJM.[392]

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382 *Id.* at 20.
383 *Id.*
384 *Id.* at 21.
385 *Id.* at 21-22.
386 *Id.* at 22.
387 *Id.*
388 *Id.*
389 *Id.* at 23.
390 *Id.*
391 *Id.* at 24.
392 *Id.*

Mr. Hubbard defended T&C that give the Company all rights to energy and demand savings resulting from the DSM Programs, by contending that incentives are designed to motivate participants to more efficient energy use and are not designed to accomplish energy savings on a "pro-rated" basis.[393] Mr. Hubbard argued Ms. Perry's proposal would complicate the process of determining the cost and benefit of programs and is unnecessary given participants are paid incentives and receive benefits from resulting energy and demand savings.[394]

Deanna R. Kesler disagreed with the testimony of Environmental Respondent witness Grevatt that the Company failed to provide the level of transparency he recommended in the prior proceeding.[395] Indeed, Ms. Kesler contended Mr. Grevatt's testimony is incorrect on this matter and the program cost/benefit diagnostic reports contain annual savings values.[396] Ms. Kesler confirmed costs and savings will continue beyond the five-year program implementation as the Company's DSM Programs are long-term resources.[397]

Regarding Staff witness Dalton's testimony that the Phase II and Phase V cost/benefit test results do not incorporate actual Virginia energy and demand data, Ms. Kesler maintained deemed savings values, NTG Ratios, and Realized Rates in the EM&V "are determined based on Virginia-specific and Company-specific calculations developed by DNV GL after Programs are approved."[398] Ms. Kesler also noted the only active Phase II DSM Program is the Non-residential Distributed Generation Program, "which readily lends itself to measurement of actual energy and demand savings."[399]

For Mr. Dalton's recommendation that the Commission direct the Company to develop a methodology for performing cost/benefit analysis for closed programs in future proceedings, Ms. Kesler asserted the Commission has not required the Company to provide cost/benefit results for programs that are closed.[400] Ms. Kesler maintained this is consistent with the purpose of cost/benefit analysis for DSM Programs which is whether to invest in an incremental resource and is focused on going forward costs.[401]

In regard to Staff witness Boehnlein's testimony that for several of the Company's proposed Phase VIII DSM Programs, participation below the Company's projections will impact the program's performance, Ms. Kesler affirmed the EM&V process will collect participation information with results included in future Company DSM filings.[402] Ms. Kesler noted "a change in participation could result in higher or lower cost/benefit results depending on the other parameters."[403]

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[393] *Id.* at 24-25.
[394] *Id.* at 25.
[395] Exhibit No. 31, at 2.
[396] *Id.* at 3.
[397] *Id.*
[398] *Id.* at 4.
[399] *Id.*
[400] *Id.* at 4-5.
[401] *Id.* at 5.
[402] *Id.* at 6.
[403] *Id.* at 6-7.

Dr. Miriam Goldberg stated EM&V can serve the following purposes:

- At program initiation, EM&V can help answer several questions.
  - What information is needed to design the program?
  - What market failure necessitates program intervention?
  - How does the market work, and how will the intervention affect the market?
  - What is the program intervention expected to do?
  - What external factors may affect performance?
  - What are the uncertainties and risks?

- During the program, EM&V can answer questions such as:
  - Is the program performing as expected?
  - Why is the program not saving what it was expected to? What can be done to increase performance?
  - Are products, trade allies, and markets behaving as expected?
  - Is participation as expected? Who is participating?
  - Who is not participating and how can the program reach them?

- At end of the program:
  - How much energy and demand was saved? How confident are we that the savings occurred?
  - How much generation is avoided?
  - How much of the savings is attributable to program intervention?
  - What other benefits did the program produce? What were the costs? Is the program worth continuing?
  - Is the intervention still needed? What changes are needed if it is continued?[404]

Dr. Goldberg testified there are three generally accepted ways of determining energy savings for impact evaluation: (i) deemed savings, (ii) direct measurement and verification, and (iii) comparison group.[405]

Dr. Goldberg agreed with Staff witness Dalton's recommendation that to the fullest extent practicable, the Company should use actual, measured data, through random sampling and statistical analysis, as variable inputs into calculations of energy and demand savings, provided

[404] Exhibit No. 32, at 3.
[405] *Id.* at 4.

"to the fullest extent practicable," means the costs of obtaining the information does not outweigh the value of the information provided.[406] Dr. Goldberg did not agree with Mr. Dalton's recommendation that NTG analysis should be performed for each ongoing and proposed DSM Program to estimate free-ridership.[407] Dr. Goldberg asserted NTG determinations may be more costly than is warranted for some programs, but agreed this is an area for further discussion with Staff.[408]

Dr. Goldberg agreed with Mr. Dalton's recommendation that the Company perform appropriate impact analyses for each of its ongoing programs to develop appropriate Realization Rates, provided "appropriate impact analyses" means different methods and levels of rigor for different programs to strike an appropriate balance between the accuracy of the impact estimate and the cost.[409] Similarly, Dr. Goldberg agreed with Mr. Dalton's recommendation that the Company perform appropriate analyses to ensure the accuracy of the assumed baselines used in the proposed Phase VIII DSM Programs and the re-proposed Phase VII Programs, provided "appropriate analyses" strikes the appropriate balance between the accuracy of the impact estimate and the cost.[410]

Dr. Goldberg defended the use of deemed values as "an industry-recognized method of determining savings associated with programs."[411] Dr. Goldberg maintained it is impractical to measure all variables used to estimate energy and demand savings, even on a random sampling basis.[412]

Dr. Goldberg generally agreed on the need for a higher level of EM&V rigor, and asserted this "naturally will require a higher level of spending."[413] To balance the cost and value of EM&V, Dr. Goldberg offered a Value of Information framework, which "assesses the extent to which evaluation activities cost-effectively reduce uncertainty and mitigate risk."[414] Dr. Goldberg reported "[a] typical range of EM&V spending for moderate to large DSM portfolios is 3 to 7 percent of the portfolio budget."[415] Dr. Goldberg testified Dominion Energy's EM&V budget was 3.9 percent of its total portfolio spending from 2010 through 2019.[416]

In response to Mr. Dalton's recommendation for the Company to perform repeated sampling of its participants in DSM Programs to understand changes in participant behavior after the program has begun, Dr. Goldberg noted two concepts addressed by studying a sample of

[406] *Id.* at 6.
[407] *Id.* at 6-7.
[408] *Id.* at 7.
[409] *Id.*
[410] *Id.*
[411] *Id.* at 8.
[412] *Id.*
[413] *Id.* at 8-9.
[414] *Id.* at 9.
[415] *Id.* at 12.
[416] *Id.*

participants, (i) savings degradation, or the rate of decline in savings after the first year; and (ii) takeback or snapback, which is participants using the savings to increase comfort.[417]

Dr. Goldberg recommended using a mix of approaches rather than Options A or B of the IPMVP recommended by Mr. Dalton for use during the interim period between program implementation and Evaluated Savings Approaches implementation.[418]

Dr. Goldberg defended the used of deemed values "based on a compilation of valid studies and vetted by industry experts . . . ."[419] Dr. Goldberg testified "[f]or measures that constitute a small fraction of the portfolio, accepting deemed values allows evaluation resources to be focused on measures with greater uncertainty and/or greater savings."[420] Dr. Goldberg argued deemed values, with customer-specific and Virginia-specific inputs may provide better accuracy than statistically sampled results, which are subject to statistical uncertainty.[421]

Dr. Goldberg testified there is value to conducting studies of NTG, and surveys with samples of customers may be the most cost-effective means to conduct such studies. Dr. Goldberg also stated "a NTG study is not necessarily appropriate or cost-justified for every program."[422] Dr. Goldberg maintained this is an area for discussion between the Company, DNV GL, and Staff.[423] Dr. Goldberg offered reference material for guidelines on methods to use in various situations.[424]

Dr. Goldberg agreed with Mr. Dalton that baseline studies should be performed for the proposed Phase VIII Non-residential Midstream Energy Efficient Products Program.[425] Dr. Goldberg disagreed with Mr. Dalton that baseline studies should be performed for the proposed Non-residential New Construction Program, and supported the use of simulations, "a recognized method for estimating savings from new construction."[426] Dr. Goldberg also disagreed with Mr. Dalton recommendation Non-residential Small Business Program information should be collected from existing equipment that is replaced to develop a baseline.[427] Because customers replace equipment at or near the end of its useful life, Dr. Goldberg maintained the correct baseline is standard new equipment that would otherwise have been installed.[428] Dr. Goldberg advised that some jurisdictions use a duel-baseline, "counting savings relative to existing equipment for the accelerated-replacement period, and savings relative to

[417] *Id.* at 14.
[418] *Id.* at 15.
[419] *Id.* at 16.
[420] *Id.*
[421] *Id.*
[422] *Id.* at 17.
[423] *Id.*
[424] *Id.* at 17-18.
[425] *Id.* at 19.
[426] *Id.* at 20.
[427] *Id.* at 21.
[428] *Id.*

standard new equipment for the remainder of the measure life."[429] Dr. Goldberg noted a duel-baseline is more complicated and costly to implement, but can be an area of further discussion between the Company, DNV GL, and Staff.[430]

Dan Feng recognized the current opportunity for collaboration with Staff for refinement of the EM&V process moving forward.[431]

Ms. Feng disagreed with Staff witness Dalton that the Company's EM&V results are not fully responsive to the Commission's directives in the *May 2, 2019 Order*.[432] Furthermore, Ms. Feng pointed out that the EM&V results reported in this case are through calendar year 2018 and were filed May 1, 2019.[433]

Ms. Feng agreed with the recommendations in Mr. Dalton's summary provided his use of "to the fullest extent practicable" and "appropriate" means balancing of study costs with the value of the information.[434] Ms. Feng agreed with Mr. Dalton that the regulatory landscape in Virginia concerning DSM changed and there is a need for more rigorous EM&V.[435] Ms. Feng advised that the EM&V plans filed in this and the Company's prior DSM Update outline DNV GL's intention to meet the requirements of the EM&V Rules and "to take a holistic approach to evaluation planning for the Company's portfolio of DSM programs by balancing cost-effectiveness and rigor so the Company could ensure its programs remain cost-effective and deliver verifiable savings."[436]

Ms. Feng disagreed with Mr. Dalton's contention that deemed savings equations and default assumptions to estimate savings fail to satisfy the Commission's *May 2, 2019 Order* because the EM&V uses the same deemed values used in the planning assumptions when they are approved.[437] Ms. Feng affirmed the only planning assumptions used by DNV GL in its EM&V are the NTG factors and measure lives.[438] Ms. Feng confirmed the deemed savings values DNV GL develops use the most utility-specific and Virginia-specific information available and are a form of "actual measured savings."[439] Ms. Feng maintained "the savings estimated from this process are considered gross savings reported by an independent third party and not a restatement of the program designers' or the Company's planned ex ante savings estimates."[440] In addition, Ms. Feng asserted obtaining a statistical sample large enough to

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[429] *Id.*
[430] *Id.* at 21-22.
[431] Exhibit No. 33, at 2.
[432] *Id.*
[433] *Id.* at 3.
[434] *Id.* at 4.
[435] *Id.*
[436] *Id.* at 5.
[437] *Id.* at 9.
[438] *Id.*
[439] *Id.* at 10.
[440] *Id.* at 11.

produce accurate estimates may be too expensive compared to the value of the program, or may not be achievable.[441]

Ms. Feng agreed in part with Mr. Dalton's testimony describing deemed values as estimates, but pointed out "there are different levels of confidence that can be placed on different types of estimates."[442] Ms. Feng acknowledged periodic EM&V studies appropriately targeted would reduce uncertainty, and such targeted studies are included in the plans for Phase VII Programs and Phase VIII DSM Programs.[443] Ms. Feng emphasized DNV GL is open to coordinating with Staff going forward to determine the appropriate level of EM&V rigor.[444]

Regarding Mr. Dalton's criticism of the Company's use of imprecise equations for the Phase III Non-Residential Heating and Cooling Efficiency Program, Ms. Feng contended the efficiency savings estimates were based on the best information available when the program was launched in 2014.[445] Ms. Feng advised "[b]ecause program continuity is important in program success and it was DNV GL's approach not to disrupt that to the extent feasible, DNV GL did not modify the data collection specifications as it would be too disruptive to Program implementation and operations."[446]

Ms. Feng agreed with Mr. Dalton that the Phase VI Non-Residential Prescriptive Program should be examined more closely and offered to work with the Company and Staff to develop an evaluation plan.[447]

Ms. Feng agreed with Staff witness Boehnlein that obtaining contact information for end-use customers for the Company's Midstream Program can be valuable, but must be balanced against the extra cost and burden on the participating distributors and their contractors.[448]

Ms. Feng disagreed with Mr. Boehnlein's recommendation to track individual customer response in the Phase VII Customer Engagement Program and remove customers shown to have persistent non-response or increased usage after receipt of treatment.[449] Ms. Feng maintained this would not be a good idea because: (i) increased consumption after receiving Home Energy Reports does not mean the reports are having no effect, as other household changes may increase consumption; (ii) attempting to adjust the control group would produce a biased estimate.[450]

[441] *Id.*
[442] *Id.* at 12.
[443] *Id.* at 13.
[444] *Id.*
[445] *Id.* at 14.
[446] *Id.*
[447] *Id.* at 15.
[448] *Id.* at 15-16.
[449] *Id.* at 16.
[450] *Id.* at 16-17.

Public Witness Testimony

On April 30, 2020, a hearing was held via Skype to take testimony from public witnesses. One public witness presented testimony, which is summarized below.

Chase Counts of Richmond, Virginia, director of utility programs for Community Housing Partners Energy Solutions, offered comments concerning the program proposed to meet the requirements of HB 2789 to provide a weatherization service provider's perspective.[451] Mr. Counts affirmed that Community Housing Partners Energy Solutions is the largest provider of weatherization services to low income, elderly and other vulnerable populations in Virginia.[452] Mr. Counts maintained in order to optimize the services provided to Virginia's energy burdened households, to extend weatherization and energy efficiency services to low income, multifamily properties, "the eligibility criteria to qualify as low income must be nuanced."[453]

Mr. Counts acknowledged Company witness Hubbard attempted to address this issue on rebuttal by proposing to use area median versus state median income to determine eligibility for low income weatherization.[454] Mr. Counts advised Virginia's Department of Housing and Community Development set eligibility for the federal Weatherization Assistance Program at 60 percent of the state median income, or $60,286.[455] Mr. Counts pointed out that the Virginia Housing Development Authority qualifies households at affordable multifamily properties as 80 percent of the local area median income, which for a family of four in Fairfax County is $77,600 and for a family of four in Halifax County is $45,900.[456] Mr. Counts contended defining low income entirely by local area median income would benefit his ability to serve more customers in Northern Virginia, but excludes customers residing in more rural and less wealthy localities outside Northern Virginia.[457]

Mr. Counts recommended adoption of a definition of low income to include:

> A, a household whose annual income does not exceed 80 percent of the local area median income as set forth by the Virginia Housing Development Authority, or 60 percent of the state median income as determined by Virginia Department of Housing and Community Development, whichever is greater; and B, a household that otherwise qualifies for another utility-sponsored, federally-funded or state-sponsored income or age-qualifying weatherization or energy efficiency program.[458]

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[451] Counts, Tr. at 121-22.
[452] *Id.* at 122.
[453] *Id.* at 123.
[454] *Id.* at 123-24.
[455] *Id.* at 124.
[456] *Id.* at 124-25.
[457] *Id.* at 125.
[458] *Id.* at 125-26.

Mr. Counts asserted his proposal would permit the participation of energy burdened customers, and reduce administrative burdens of the nonprofit network of weatherization service providers during client intake and filtering income thresholds beyond income thresholds already established addressing the same target customer base.[459]

Mr. Counts testified the Company's annual weatherization services providers meetings and ongoing stakeholder process has improved program designs, implementation, and communication.[460] Nonetheless, Mr. Counts stated due to its complexities, the stakeholder's group has not been able to digest and resolve the definition of low income.[461]

Public Comments

During this proceeding four public comments were submitted to the Commission. These comments are summarized below.

Mr. Gene Smith filed comments dated March 6, 2020, that questioned the benefits of the proposed DSM Programs and the reliability of the estimates upon which costs and savings are derived.

Virginia Department of Mines, Minerals and Energy filed comments dated April 22, 2020, that strongly supported approval of Dominion Energy's proposed DSM Programs and agreed with Staff that EM&V procedures and data need to be as robust and reliable as practicable.

Sierra Club filed comments dated May 6, 2020, which made the following recommendations: (i) approve the proposed Phase VIII DSM Programs; (ii) direct the Company, in its next DSM Petition, to provide annual budgets and clarify that the annual DSM budgets should achieve the cumulative GTSA and VCEA mandates; (iii) direct the Company to submit detailed program information for all proposed DSM/EE Programs in the interests of transparency to its ratepayers and interested parties; and (iv) for the Residential Home Retrofit Program, specifically target high usage customers who also have a high electricity burden and provide the recommended energy efficiency upgrades to those high electricity burden customers at no charge.

Chase Counts filed comments dated May 6, 2020, to provide a written copy of his public witness testimony and provided supporting charts and graphs.

DISCUSSION

In relation to DSM Programs, § 56-576 of the Code defines "energy efficiency program," "in the public interest," and "measured and verified" as follows:

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[459] *Id.* at 126.
[460] *Id.* at 126-27.
[461] *Id.* at 127.

"**Energy efficiency program**" means a program that reduces the total amount of electricity that is required for the same process or activity implemented after the expiration of capped rates. Energy efficiency programs include equipment, physical, or program change designed to produce measured and verified reductions in the amount of electricity required to perform the same function and produce the same or a similar outcome. Energy efficiency programs may include, but are not limited to, (i) programs that result in improvements in lighting design, heating, ventilation, and air conditioning systems, appliances, building envelopes, and industrial and commercial processes; (ii) measures, such as but not limited to the installation of advanced meters, implemented or installed by utilities, that reduce fuel use or losses of electricity and otherwise improve internal operating efficiency in generation, transmission, and distribution systems; and (iii) customer engagement programs that result in measurable and verifiable energy savings that lead to efficient use patterns and practices. Energy efficiency programs include demand response, combined heat and power and waste heat recovery, curtailment, or other programs that are designed to reduce electricity consumption so long as they reduce the total amount of electricity that is required for the same process or activity. . . .

. . . .

"**In the public interest**," for purposes of assessing energy efficiency programs, describes an energy efficiency program if the Commission determines that the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the following four tests: (i) the Total Resource Cost Test; (ii) the Utility Cost Test (also referred to as the Program Administrator Test); (iii) the Participant Test; and (iv) the Ratepayer Impact Measure Test. Such determination shall include an analysis of all four tests, and a program or portfolio of programs shall be approved if the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the four tests. If the Commission determines that an energy efficiency program or portfolio of programs is not in the public interest, its final order shall include all work product and analysis conducted by the Commission's staff in relation to that program, including testimony relied upon by the Commission's staff, that has bearing upon the Commission's decision. If the Commission reduces the proposed budget for a program or portfolio of programs, its final order shall include an analysis of the impact such budget reduction has upon the cost-effectiveness of such program or portfolio of programs. An order by the

> Commission (a) finding that a program or portfolio of programs is not in the public interest or (b) reducing the proposed budget for any program or portfolio of programs shall adhere to existing protocols for extraordinarily sensitive information. In addition, an energy efficiency program may be deemed to be "in the public interest" if the program provides measurable and verifiable energy savings to low-income customers or elderly customers.
>
> "**Measured and verified**" means a process determined pursuant to methods accepted for use by utilities and industries to measure, verify, and validate energy savings and peak demand savings. This may include the protocol established by the United States Department of Energy, Office of Federal Energy Management Programs, Measurement and Verification Guidance for Federal Energy Projects, measurement and verification standards developed by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), or engineering-based estimates of energy and demand savings associated with specific energy efficiency measures, as determined by the Commission. (emphasis added)

Pursuant to § 56-585.1 A 5 c of the Code, an electric utility may petition the Commission not more than once in any 12-month period for the timely and current recovery of "[p]rojected and actual costs for the utility to design, implement, and operate energy efficiency programs, including a margin to be recovered on operating expenses, which margin for the purposes of this section shall be equal to the general rate of return on common equity determined as described in subdivision 2" of § 56-585.1. Section 56-585.1 A 5 c further provides that:

> [a]ny such petition shall include a proposed budget for the design, implementation, and operation of the energy efficiency program. The Commission shall only approve such a petition if it finds that the program is in the public interest….
>
> In all relevant proceedings pursuant to this section, the Commission shall take into consideration the goals of economic development, energy efficiency and environmental protection in the Commonwealth[.]

Pursuant to the GTSA, as codified in § 56-596.2 of the Code, a Phase II Utility, such as Dominion Energy,

> shall develop a proposed program of energy conservation measures. Any program shall provide for the submission of a petition or petitions for approval to design, implement, and operate energy efficiency programs pursuant to subdivision A 5 c of § 56-585.1. At least five percent of such energy efficiency

> programs shall benefit low-income, elderly, and disabled individuals. The projected costs for the utility to design, implement, and operate such energy efficiency programs, including a margin to be recovered on operating expenses, shall be no less than an aggregate amount of . . . $870 million for a Phase II Utility for the period beginning July 1, 2018, and ending July 1, 2028, including any existing approved energy efficiency programs….

Pursuant to § 56-596.2:1 a Phase II Utility, such as Dominion Energy, "shall submit a petition for approval to design, implement and operate a three-year program of energy conservation measures providing:

> 1. Incentives to low income, elderly, and disabled individuals in an amount not to exceed $25 million in the aggregate for the installation of measures that reduce residential heating and cooling costs and enhance the health and safety of residents, including repairs and improvements to home heating and cooling systems and installation of energy-saving measures in the house, such as insulation and air sealing…. The utility may provide such incentives directly to customers or to organizations that assist low income, elderly, and disabled individuals. Such incentive program shall be deemed to be . . . a part of the $870 million in energy efficiency programs that a Phase II utility is required to develop pursuant to § 56-596.2; provided that no portion of such incentive programs shall be deemed to be a part of the required five percent of such energy conservation measures set aside for low income, elderly, and disabled individuals.
>
> . . . .
>
> B. In developing such incentive programs, each utility shall give consideration to low income, elderly, and disabled persons residing in housing that a redevelopment and housing authority owns or controls.

Finally, the recently enacted VCEA amends § 56-596.2 and establishes incentives for the Company to meet annual energy savings targets,[462] and for the Commission to monitor and report the performance of the Company's DSM Programs and annual energy savings to the General Assembly.[463]

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[462] VCEA requires Dominion Energy to meet the following annual energy savings of the average annual energy jurisdictional sales by the Company in 2019: (i) for 2022, at least 1.25 percent savings; (ii) for 2023, at least 2.5 percent savings; (iii) for 2024, at least 3.75 percent savings; and (iv) for 2025, at least 5.0 percent savings.
[463] *See*, Chapter 1193 of the Acts of Assembly.

In this proceeding, Dominion Energy requests: (i) approval of its 11 Phase VIII DSM Programs; (ii) approval to extend its existing AC Cycling Program; (iii) approval to re-launch three of its approved Phase VII DSM Programs; and (iv) approval of its annual updates to three RACs by which the Company recovers costs associated with its DSM Portfolio and designated as Riders C1A, C2A, and C3A.[464]

Staff did not oppose approval of the requested DSM Programs or the proposed Riders C1A, C2A, and C3A.[465] However, Staff offered several recommendations concerning implementation of the proposed DSM Programs, pointed out that the Company's Phase IV Non-Residential Prescriptive Program fails all four cost/benefit tests, and expressed a lack of confidence in the Company's EM&V results.[466]

Consumer Counsel supported Staff's proposed modifications to the Residential New Construction Program.[467] In addition, Consumer Counsel highlighted statutory changes that will occur on July 1, 2020, with the adoption of the VCEA, and supported Staff's recommendations for more rigorous EM&V to verify actual reductions in energy usage.[468]

Walmart raised issues concerning the T&C, which were narrowed during the proceeding. On brief, Walmart maintained the indemnification provision of the Non-Residential Prescriptive Program are overly broad and asked the Commission to direct Dominion Energy to adopt Walmart's proposed alternative language.[469]

VAEEC supported adoption of the Company's proposed DSM Programs, which it contended are in the public interest. Specifically, VAEEC supported the Company's proposed midstream programs, including rebates payable to homebuilders, which it argued are important for obtaining greater energy efficiency savings.[470] In response to the GTSA and VCEA, VAEEC recommended the Commission direct the Company to: (i) file VAEEC's proposed DSM Dashboard and (ii) evaluate new programs to improve AMI integration.[471]

Environmental Respondents recommended the Commission approve the Company's proposed Phase VIII DSM Programs.[472] Environmental Respondents expressed concern with Dominion Energy's fragmented approach to energy efficiency and urged the Commission to require the Company to file a strategic plan with its next energy efficiency petition.[473] Finally, similar to VAEEC, Environmental Respondents asked the Commission to direct the Company to

[464] Company Brief at 4.
[465] Staff Brief at 7-8.
[466] *Id.* at 8-9.
[467] Consumer Counsel Brief at 3-9.
[468] *Id.* at 9-16.
[469] Walmart Brief at 10.
[470] VAEEC Brief at 1-7.
[471] *Id.* at 7-9.
[472] Environmental Respondents Brief at 6-8.
[473] *Id.* at 8-12.

improve data transparency and tracking metrics, based on the Environmental Respondents' proposed format.[474]

VPLC contended the proposed Phase VIII DSM Programs are reasonable and in the public interest.[475] For determining the eligibility for future low-income programs, VPLC supported alignment with the federal WAP to reduce administrative burdens.[476] Finally, VPLC stressed the need for Dominion Energy to continue to engage with the stakeholder group.[477]

Thus, based on the issues presented, the discussion will address the following topics: A. Riders C1A, C2A, and C3A; B. proposed DSM Programs; C. T&C issues; D. other Respondent recommendations; and E. EM&V issues.

A. Riders C1A, C2A, and C3A

Dominion Energy requested the following Rate Year Projected Revenue Requirement, the Monthly True-Up Adjustment, and the total revenue requirement for Rider C1A, C2A, and C3A as follows:[478]

	Rider C1A	Rider C2A	Rider C3A	Total
Rate Year Projected Rev. Req.	$3,163,477	$15,343,575	$48,461,666	$66,968,718
Monthly True-Up Adjustment	$(328,054)	$(6,955,245)	$ -	$(7,283,299)
Total Rev. Req.	$2,835,423	$8,388,330	$48,461,666	$59,685,418

Company witness Lecky confirmed the overall proposed revenue requirement of $59,685,418 represents a net increase of approximately $11,076,861 for Riders C1A, C2A, and C3A.[479]

In addition, Dominion Energy affirmed it used the same allocation methodology and rate design approved in the Commission's *May 2, 2019 Order*.[480]

No issues concerning these calculations have been raised by Staff or the parties. I therefore agree the Company's requested revenue requirement, cost allocation methodology, and rate design should be approved by the Commission.

B. Proposed DSM Programs

The Company seeks approval of the following 11 Phase VIII DSM Programs:[481]

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474 *Id.* at 12-13.
475 VPLC Brief at 2-3.
476 *Id.* at 4-5.
477 *Id.* at 5-6.
478 Company Brief at 21; Exhibit No. 10, at 10-11.
479 Exhibit No. 10, at 11.
480 Company Brief at 21; Exhibit No. 12, at 2.
481 Company Brief at 4-5.

1) Residential Electric Vehicle (EE and DR)
2) Residential Electric Vehicle (Peak Shaving)
3) Residential Energy Efficiency Kits (EE)
4) Residential Home Retrofit (EE)
5) Residential Manufactured Housing (EE)
6) Residential New Construction (EE)
7) Residential/Non-residential Multifamily (EE)
8) Non-residential Midstream Energy Efficiency Products (EE)
9) Non-residential New Construction (EE)
10) Small Business Improvement Enhanced (EE)
11) HB 2789 (Heating and Cooling/Health and Safety) (EE)

In addition, Dominion Energy seeks extension of its AC Cycling Program and approval of the following three Phase VII DSM Programs:[482]

1) Residential Customer Engagement Program
2) Residential Thermostat Program (EE)
3) Residential Thermostat Program (DR)

As summarized above, no one opposes the adoption of any of the proposed DSM Programs. Nonetheless, Staff offered several changes to the proposed DSM Programs. Specifically, Staff offered recommended changes to the following DSM Programs: (i) the Residential Electric Vehicle EE, DR Program, and the Residential Electric Vehicle Peak Shaving Program;[483] (ii) Residential New Construction Program;[484] (iii) Non-Residential New Construction Program;[485] (iv) Non-Residential Midstream Energy Efficient Products Program;[486] and (v) Small Business Improvement Enhancement Program.[487] Staff's recommended changes for these DSM Programs are discussed separately below.

(i) Residential Electric Vehicle EE and DR Program

Staff recommended combining the Residential Electric Vehicle EE and DR Program ("EE and DR Program") with the Residential Electric Vehicle Peak Shaving Program ("Peak Shaving Program").[488] Staff maintained under the EE and DR Program, customers receive a Level 2 electric vehicle charger and must enroll in the DR component, which produces most of the savings.[489] Staff stated the Peak Shaving Program is for customers who already own a

[482] *Id.*
[483] Staff Brief at 11-12.
[484] *Id.* at 12-14, 22-23.
[485] *Id.* at 23.
[486] *Id.* at 14, 22.
[487] *Id.* at 14, 23.
[488] *Id.* at 11; Exhibit No. 20, at 17.
[489] *Id.* at 11-12; *Id.*

Level 2 charger.[490] Staff questioned whether the projected peak shaving benefits will be fully realized, especially if customers are not charging their vehicles during peak time.[491] Staff contended "[c]ombining the two programs could provide for the most benefits to customers and more realized energy savings."[492]

Company witness Hubbard testified "[t]he Company was careful in its analysis and in its request for cost recovery to differentiate between the portion of the Program that would result in both energy and demand savings and those that would yield only demand savings."[493]

Because Staff questioned the projected peak shaving benefits to be realized, I find keeping these programs separate should permit a more granular EM&V analysis than if the two programs are lumped together. Moreover, these programs target different groups (*i.e.*, those without a Level 2 charger and those with a Level 2 charger). Consequently, I could find nothing in the record to suggest how combining the two programs could increase benefits to customers or help customers to realize additional energy savings. Therefore, I agree with the Company that the EE and DR Program should remain separate from the Peak Shaving Program.

(ii) Residential New Construction Program

Staff raised two issues concerning the Residential New Construction Program. The first issue concerns whether the participating homebuilder should be required to pass any of the incentive received from Dominion Energy to the customer purchasing the home.[494] Staff originally recommended all incentives be passed on to the customer.[495] During the hearing and on brief, the Company stated it would not oppose a requirement for builders to pass on 50 percent of the incentive (which should average $859 per home[496]) consistent with the treatment of similar incentives adopted by the Commission in its *2020 APCo EE-RAC Order*.[497] Based on the Commission's *2020 APCo EE-RAC Order* and the Company's lack of opposition, I find the alternative 50 percent pass of incentives to customers should be adopted.

The second issue concerns the baseline assumption used for comparison to the ENERGY STAR® certified home. Staff recommended setting the baseline assumption to reflect the level of efficiency the home would have been constructed to achieve without the ENERGY STAR®

[490] *Id.* at 12; *Id.* at 18.
[491] *Id.*; *Id.*
[492] Staff Brief at 12.
[493] Exhibit No. 29, at 7.
[494] Staff Brief at 12; Exhibit 20, at 23.
[495] Staff Brief at 12.
[496] Exhibit No. 30.
[497] Company Brief at 8; Hubbard, Tr. at 82; *Petition of Appalachian Power Company, For approval to continue rate adjustment clause, the EE-RAC, and for approval of new energy efficiency programs pursuant to §§ 56-585.1 A 5 c and 56-596.2 of the Code of Virginia*, Case No. PUR-2019-00122, Doc. Con. Cen. No. 200550013, Order Approving Rate Adjustment Clause (May 21, 2020) ("*2020 APCo EE-RAC Order*").

upgrades, instead of at the baseline state minimum energy efficiency level as proposed by the Company.[498] Staff maintained:

> To have a proper analysis, the baseline should be set at the standard of the typical home that the builder already constructs without the ENERGY STAR upgrades. Otherwise, the analysis and the resulting projected energy savings is skewed and there cannot be any confidence in the results.[499]

I agree with Staff that its baseline recommendation provides a better starting point for measuring energy savings to be realized by incentives to construct ENERGY STAR® homes. Therefore, I find the baseline for this program should be set to the standard of the typical home that the builder already constructs without the ENERGY STAR® upgrades.

(iii) Non-Residential New Construction Program

Similar to the Residential New Construction Program, Staff recommended the Commission require the Company/DNV GL to conduct a baseline study to determine whether minimum building code energy efficiency requirements are an appropriate baseline for new non-residential buildings.[500] I agree with Staff that such a study is necessary to determine more realistic levels of program savings, rather than relying on minimum building codes.

(iv) Non-Residential Midstream Energy Efficient Products Program

Staff recommended the distributor or retailer participating in the Non-Residential Midstream Energy Efficient Products Program be required to include, at a minimum, the customer address and contact information in its monthly point-of-sales data so that sufficient EM&V follow-up can be conducted.[501] The Company did not object to Staff's recommendation.[502] Therefore, I find the Commission should direct the Company to collect delivery location and contact information of the purchaser for this program.

In addition, Staff contended the proposed EM&V for this program generally assumes the baseline is the minimum applicable code requirement.[503] Staff witness Dalton maintained the level of savings depends on the replaced equipment or the equipment the customer would have purchased absent the program.[504] Staff reported the Company may perform analysis comparing market penetration of energy-efficient products achieved by non-participating retailers through a quasi-experimental market study, a market lift study, or some combination these studies.[505] Staff

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[498] Staff Brief at 13; Exhibit No. 20, at 23-24; Exhibit No. 30.
[499] Staff Brief at 14.
[500] *Id.* at 23.
[501] *Id.* at 14; Company Brief at 10.
[502] Company Brief at 10; Exhibit No. 29, at 8.
[503] Staff Brief at 22.
[504] *Id.*; Exhibit No. 22, at 39.
[505] Exhibit No. 22, at 40.

recommended "the Commission require the Company to perform (1) a combination of the studies mentioned by the Company if the Commission desires more accurate estimates of energy and demand savings, or (2) one of the studies if the Commission does not require a higher level of rigor."[506]

I find that without cost information, it is difficult to balance the level rigor to be directed. Therefore, I find the Commission should not direct the Company to undertake Staff's recommended studies in this case, but direct further development of this issue for consideration in future DSM proceedings.

(v) Small Business Improvement Enhancement Program

This program is designed to be an enhancement of the Phase V Small Business Improvement Program that runs through April 30, 2021.[507] Staff recommended: "any measure that is installed under the Phase V Program be prohibited from having a duplicate measure installed under the Proposed Phase VIII Program until such time as the measure reaches its Expected Useful Life."[508] In his rebuttal testimony, Company witness Hubbard maintained Staff's recommendation is an unnecessary restriction "because the Company will not issue incentives in the Phase VIII Program if a duplicate measure is installed on the same equipment that received [a rebate for] the same measure in the Phase V Program."[509] Mr. Hubbard also explained "if the past participant has equipment that did not previously receive a rebate for the same installed measure in the Phase V Program, than the Company would issue incentives in the Phase VIII Program if the other standard requirements for rebate eligibility have been met."[510] Staff's proposed restriction does not appear to be tied to whether the measure received a rebate, but whether the measure was installed. Based on the Company's clarification of only one rebate being paid per measure installed, I agree with the Company that Staff's proposed restriction is unnecessary.

Staff also expressed concern regarding the baseline assumption for this program that the equipment being replaced is only code minimum compliant or, absent the incentive, would have been replaced with code minimum equipment.[511] Staff recommended the Company "collect relevant information from existing equipment that is replaced and use this information in developing a baseline."[512]

Company witness Goldberg disagreed and argued "[f]or customers that are replacing equipment at the end of its useful life, the appropriate baseline is not the existing equipment but the standard efficiency equipment they would otherwise install at that time."[513] Dr. Goldberg

[506] Staff Brief at 22.
[507] *Id.* at 14; Exhibit No. 20, at 29.
[508] *Id.* at 14-15; *Id.*
[509] Exhibit No. 29, at 9; Company Brief at 11.
[510] Exhibit No. 29, at 9.
[511] Staff Brief at 23; Exhibit No. 22, at 45.
[512] *Id.*; *Id.*
[513] Exhibit No. 32, at 21.

acknowledged some customers may replace equipment earlier than they otherwise would because of the program, but asserted "the correct baseline for most of the life of the new equipment is still the standard new equipment that would otherwise have been installed somewhat later."[514]

It is unclear whether "standard efficiency equipment" equals or corresponds to "code minimum equipment." As with the Non-Residential Midstream Energy Efficient Products Program, I find the Commission should direct further development of this issue for consideration in future DSM proceedings.

C. T&C Issues

Walmart witness Perry raised several issues concerning the T&C for the Company's Phase VI Non-Residential Prescriptive Program ("Prescriptive Program"). During the proceeding, the Company and Walmart agreed to the following:

- Information sharing with PJM "shall be limited to the information needed to implement the agreement [to participate in the Prescriptive Program] with the customer. No additional information will be shared without the prior written authorization of the customer."[515]
- The Company will include proposed T&C in any future application for approval of a DSM program applicable to non-residential customers.[516]
- Walmart would accept the method for calculating energy and demand savings as set forth in the T&C.[517]

The remaining issue concerns Walmart's proposed change to the indemnification provision in the Prescriptive Program. Walmart proposed the following edit to the indemnification provision:

> The customer hereby agrees to indemnify, defend and hold harmless Dominion Energy Virginia, its parents, subsidiaries, employees, affiliates and agents from any and all liability associated with ~~this project~~ *the acts or omissions of the participating contractor, including the quality of work, labor and/or materials supplied, or the performance of the equipment installed by the contractor.*[518]

[514] *Id.*
[515] Walmart Brief at 4; Company Brief at 26; Hubbard, Tr. at 83-84.
[516] *Id.*; *Id.*; *Id.*
[517] Walmart Brief at 4; Grundmann, Tr. at 20.
[518] Walmart Brief at 6, 8, 10.

Dominion Energy maintained it has used similar indemnity provisions for other non-residential programs for years without complaint, and is similar to T&C provisions used by other utilities such as Duke Energy and Green Mountain Power.[519] More importantly, Dominion Energy asserted installation of the energy efficiency measures are by contractors selected and hired by the customer.[520] Dominion Energy contended "[t]here is no reason for the Company to assume any liability under any circumstance due to the performance of those providers and, . . . no reason to revise the Company's liability provision in this regard."[521]

Walmart emphasized the T&C provisions have not been approved by the Commission, and the Prescriptive Program fails to pass three of the four cost/benefit tests.[522] Thus, Walmart requested the Commission "require the Company to revise its T&C to eliminate a barrier to participation."[523]

Walmart argued as written by Dominion Energy, the indemnification provision goes beyond indemnifying the Company for acts of Walmart's contractor, to indemnifying Dominion Energy for any and all liability associated with the project, including Dominion Energy's own negligence.[524]

I agree with Walmart. The revised T&C continues to indemnify the Company for any and all liability associated with Walmart's contractor. It also may remove a barrier for participation for a program that has thus far failed to meet expectations or achieve projected cost/benefit results. Therefore, I find the T&C indemnity provision for the Prescriptive Program should be revised as proposed by Walmart.

D. Other Respondent Recommendations

As outlined above, VAEEC recommended adoption of its proposed DSM Dashboard and recommended the Commission direct Dominion Energy to evaluate new programs to improve AMI integration.[525] Environmental Respondents also proposed a format for data transparency and tracking metrics, and urged the Commission to require the Company to file a strategic plan with its next energy efficiency petition.[526] VPLC supported alignment with federal WAP for determining eligibility for future low-income DSM Programs.[527] VPLC also stressed the need

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[519] Company Brief at 27; Exhibit No. 29, at 22.
[520] *Id.*; *Id.*
[521] *Id.*; *Id.* at 23.
[522] Walmart Brief at 6-7.
[523] *Id.* at 7.
[524] *Id.* at 7-8.
[525] VAEEC Brief at 7-9.
[526] Environmental Respondents Brief at 8-13.
[527] VPLC Brief at 4-5.

for Dominion Energy to continue to engage with the stakeholder group.[528] Finally, public witness Counts recommended a further expansion of low-income eligibility.[529]

The Company pointed out the GTSA and VCEA require the development of energy efficiency programs in a stakeholder process.[530] The Company maintained directives from the Commission, such as the Environmental Respondents request for a Commission directive for the Company to develop a long-term energy efficiency plan, are contrary to the stakeholder process.[531] In its brief, the Company provided the following list of commitments for future stakeholder meetings:[532]

- Discuss a strategy and long-term plan to achieve GTSA and VCEA requirements, with the goal of bringing forward a cohesive plan in a future DSM proceeding, noting, however, that any such long-term strategy must be flexible to allow for changes in either policy directives or technological changes;
- Discuss a program that addresses the solar component of HB 2789;
- Continue to identify opportunities to serve affordable housing opportunities, recognizing that the VCEA will substantially increase the investment target dedicated to income-qualifying customers;
- Discuss customer experience (in-person and digital) to optimize the effectiveness of each program;
- Continue to work with the Department of Housing and Community Development to establish alignment with DSM programs where helpful and beneficial; and
- Generate ideas for future RFPs, including ideas raised in this proceeding, such as,
    - Expanding commercial and industrial offerings (recommissioning, multi-year plans, strategic energy management) in the next RFP.
    - Using AMI technology, where deployed and practicable, to aid in the geotargeting of efficiency programs in the next RFP.

[528] *Id.* at 5-6.
[529] Counts, Tr. at 125-26.
[530] Company Brief at 24.
[531] *Id.*
[532] *Id.* at 25 (footnotes omitted).

- Taking advantage of the growth in electric vehicles sales and other battery-driven technology to develop a "Bring Your Own Device" program in the next RFP.
- Adding a comprehensive residential heat pump water heater program, which could also be a midstream program, in the next RFP.

The Company advised the above list is not exhaustive and contended no Commission ruling is necessary on these issues.[533]

I agree with the Company that no Commission directive is necessary for the other Respondent recommendations as these recommendations can be explored and further developed in future stakeholder meetings.

E. EM&V Issues

In its *May 2, 2019 Order*, the Commission directed the following concerning EM&V:

> We direct that [Dominion Energy] shall file, in every future rate adjustment clause proceeding under Code § 56-585.1 A 5, evidence of the actual energy savings achieved as a result of each specific program for which cost recovery is sought, along with revised cost-benefit tests that incorporate actual Virginia energy savings and cost data. We further direct Staff to investigate each such filing, to analyze the program-specific evidence on actual energy savings and the proximate cause thereof, and to report on its findings.
>
> This evidence will be relevant to at least two foreseeable issues: (i) identifying the true cost-effectiveness of DSM programs, which will enable the Commission to determine which programs should be expanded in scope and budget so as to maximize the reductions in energy usage, which ones are least effective and should have their budgets shifted to more effective programs, and which ones are not cost-effective and should be discontinued; and (ii) evaluating any claim by [Dominion Energy] to cost recovery for lost revenues.[534]

In this proceeding, Staff expressed a lack of confidence in the Company's EM&V results due to the use of deemed values and the use of imprecise and outdated equations.[535] Among other things, Staff recommended: (i) the Commission consider directing the Company to file a

[533] *Id.* at 26.
[534] *May 2, 2019 Order* at 8-9.
[535] Staff Brief at 17-18; Exhibit No. 22, at 17-25, 28.

cost/benefit analysis for closed programs;[536] (ii) implementing the measurement and verification methodologies identified in the EM&V plans for each program beginning in year one, rather than year two;[537] (iii) to the extent possible, the Company use actual, measured data instead of deemed values as variables in calculating achieved savings;[538] and (iv) perform a NTG assessment for each of its ongoing and proposed programs to increase accuracy in evaluating free-ridership and realization rates.[539]

In addition, Staff pointed to the recent enactment of the VCEA, which includes provisions that make the margins earned on energy efficiency program operating expenses dependent on the Company meeting annual energy savings targets, and require the Commission to monitor and report on the performance of the Company's DSM Programs to the General Assembly.[540] Staff maintained "accuracy in measurement of energy savings from the Company's DSM programs will be even more critical."[541]

In response to the concerns raised by Staff, Dominion Energy advised:

> [T]he company is committed to dedicating additional resources to EM&V going forward to further demonstrate and establish the validity of the savings reported in these proceedings. To that end, the Company will work with Staff to improve the rigor of EM&V, while balancing the need for improved date accuracy with the resulting additional costs that will necessarily be borne by our customers. In other words, varying levels of rigor may be used for different programs or technologies, including deemed savings values, in order to strike the appropriate balance between improved accuracy and increased cost.[542]

Staff asserted "such collaboration between [Dominion Energy] and Staff would compromise Staff's ability to critically review future DSM filings."[543]

As both the Staff and Company have acknowledged, "there is a trade-off between obtaining more accurate EM&V data and the cost of obtaining that accuracy."[544] Furthermore, Staff recognized: "[u]ltimately, it is the Commission's discretion to determine what level of accuracy and rigor is required of EM&V, and at what cost."[545] For the Commission to make such a determination, it will require a complete record, including cost information. In this case,

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[536] *Id.* at 18-19; *Id.* at 31.
[537] *Id.* at 25; *Id.* at 48.
[538] *Id.* at 25-29; *Id.* at 19-21.
[539] *Id.* at 29-30; *Id.* at 27, 54-55.
[540] Staff Brief at 31-33.
[541] *Id.* at 33.
[542] Company Brief at 22 (footnotes omitted).
[543] Staff Brief at 30.
[544] *Id.* at 30-31; Exhibit No. 22, at 3-4; Company Brief at 22; Exhibit No. 28, at 7; Exhibit No. 32, at 7; Exhibit No. 33, at 2.
[545] Staff Brief at 30.

Staff has questioned the Company's compliance with the Commission's *May 2, 2019 Order* and is critical of the use of deemed value and variables. I share Staff's concerns. However, evaluating specific EM&V recommendations designed to increase the level of rigor for specific proposed programs requires information not presented or addressed in this proceeding, such as the cost of achieving a higher level of rigor. Without such information, I am unable to make a recommendation concerning the level of rigor to be directed other than recommend the Commission direct further development of the issue for consideration in future DSM proceedings. I believe Staff working with the Company to develop more rigorous and accurate EM&V data would help Staff develop a more complete record in future DSM proceedings and likely narrow or focus the issues presented.

Moreover, Staff working with the Company to develop more rigorous and accurate EM&V data is consistent with the requirements of § 56-596.2 C of the Code as revised by the VCEA. This Code provision directs the Company to use a stakeholder process "to provide input and feedback on . . . (iv) best practices for [EM&V] for purposes of assessing compliance with the total annual energy savings . . . ." This Code provision further provides: "[s]uch stakeholder process shall include the participation of representatives from each utility, **relevant directors, deputy directors, and staff members of the Commission who participate in approval and oversight of utility efficiency programs**, ..."[546] I recognize that Staff working with the Company to develop more rigorous and accurate EM&V data may go beyond the requirements of the stakeholder process set forth in § 56-596.2 C. However, Staff participating in the stakeholder process addressing EM&V, but declining to otherwise work with the Company on EM&V issues, would undermine the policy directive of the General Assembly for EM&V practices to be developed in a collaborative process. Therefore, I find the Commission should direct Staff to work with the Company and others to develop more rigorous and accurate EM&V data.

FINDINGS AND RECOMMENDATIONS

In conclusion, based on the record developed in this proceeding and upon the discussion above, I find:

(1) The Commission should approve the Company's proposed 11 Phase VIII DSM Programs, including: (i) Residential Electric Vehicle (EE and DR), (ii) Residential Electric Vehicle (Peak Shaving), (iii) Residential Energy Efficiency Kits (EE), (iv) Residential Home Retrofit (EE), (v) Residential Manufactured Housing (EE), (vi) Residential New Construction (EE), (vii) Residential/Non-residential Multifamily (EE), (viii) Non-residential Midstream Energy Efficiency Products (EE), (ix) Non-residential New Construction (EE), (x) Small Business Improvement Enhanced (EE), and (xi) HB 2789 (Heating and Cooling/Health and Safety) (EE);

(2) For the Residential New Construction Program, the alternative to pass 50 percent of the incentives to customers should be adopted;

[546] Emphasis added.

(3) For the Residential New Construction Program, Staff's recommendation to set the baseline to the standard of the typical home that the builder already constructs without the ENERGY STAR® upgrades should be adopted;

(4) For the Non-residential New Construction Program, Staff's recommendation that the Commission require the Company/DNV GL to conduct a baseline study to determine whether minimum building code energy efficiency requirements are an appropriate baseline for new non-residential buildings, rather than relying on minimum building codes, should be adopted;

(5) For the Non-residential Midstream Energy Efficient Products Program, Staff's recommendation that the participating distributor or retailer be required to include, at a minimum, the customer address and contact information in its monthly point-of-sales data should be adopted;

(6) For the EM&V for the Non-residential Midstream Energy Efficient Products Program, Staff's recommendation to require the performance of an analysis comparing market penetration of energy-efficient products achieved by non-participating retailers and/or a market lift study should not be adopted in this proceeding, but further developed for consideration in future DSM proceedings;

(7) The Commission should direct further study of the baseline assumptions used for the Small Business Improvement Enhancement Program;

(8) The Commission should approve the Company's proposed extension of its AC Cycling Program;

(9) The Commission should approve the re-launch of the following Phase VII DSM Programs: (i) Residential Customer Engagement Program, (ii) Residential Thermostat Program (EE), and (iii) Residential Thermostat Program (DR);

(10) The Rate Year projected revenue requirement for Rider C1A is $3,163,477, for Rider C2A is $15,343,575, and for Rider C3A is $48,461,666;

(11) The Monthly True-Up Adjustment for Rider C1A is $(328,054), for Rider C2A is $(6,955,245), and for Rider C3A is $0;

(12) The total Rate Year revenue requirement for Rider C1A is $2,835,423, for Rider C2A is $8,388,330, and for Rider C3A is $48,461,666, for an overall total Rate Year revenue requirement for Riders C1A, C2A, and C3A of $59,685,418;

(13) The Company's requested cost allocation methodology and rate design should be approved by the Commission;

(14) The T&C indemnity provision for the Phase VI Non-Residential Prescriptive Program should be revised as proposed by Walmart; and

(15) Staff should be directed to work with the Company and others to develop more rigorous and accurate EM&V data.

Accordingly, **I RECOMMEND** the Commission enter an order that:

1. ***ADOPTS*** the findings of this Report; and

2. ***DISMISSES*** this case from the Commission's docket of active cases.

COMMENTS

Staff and the parties are advised that, pursuant to Rule 5 VAC 5-20-120 C of the Commission's Rules of Practice and Procedure and § 12.1-31 of the Code, any comments to this Report must be filed on or before June 30, 2020. In accordance with the directives of the Commission's *COVID-19 Electronic Service Order*[547] the parties are encouraged to file electronically. If not filed electronically, an original and fifteen (15) copies must be submitted in writing to the Clerk of the Commission, c/o Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying copies have been sent to all counsel of record and any such party not represented by counsel.

Respectfully submitted,

Alexander F. Skirpan, Jr.

Alexander F. Skirpan, Jr.
Chief Hearing Examiner

Document Control Center is requested to send a copy of the above Report to all persons on the official Service List in this matter. The Service List is available from the Clerk of the State Corporation Commission, c/o Document Control Center, 1300 East Main Street, First Floor, Tyler Building, Richmond, VA 23219.

[547] *Commonwealth of Virginia, ex rel., State Corporation Commission, Ex Parte: Electronic service among parties during COVID-19 emergency*, Case No. CLK-2020-00007, Doc. Con. Cen. No. 200410009, Order Requiring Electronic Service, (April 1, 2020) ("*COVID-19 Electronic Service Order*").